UNITED STATES
DEPARTMENT
OF AGRICULTURE
Radio Service
OFFICE OF
INFORMATION

YOUR FARM REPORTER AT WASHINGTON
(Regions 1, 2, and 4)

Tuesday, December 2, 1929

Crops and Soils Interview No. 12a: STATUS OF THE DECIDUOUS FRUIT INDUSTRY

ANNOUNCEMENT: Just what is the present status of the deciduous fruit industry? That is what we directed your Farm Reporter at Washington to find out from the specialists in the United States Department of Agriculture. All right, Mr. Reporter, what about our apples, and peaches, and pears, and plums, and prunes, and cherries, and grapes, and the like?

---ooOoo---

The prospects seem to be for plenty of the deciduous fruits for some time to come. In fact, in the case of some of these fruits in some sections, we have enough trees now to result in rather troublesome abundance when conditions are right for big crops. Competition with other fruits is also getting keener. At least, that's what I gather from talking to Mr. H. P. Gould of the Bureau of Plant Industry, United States Department of Agriculture.

"If the climatic and other conditions are favorable during the blossoming period and thereafter, in practically all sections throughout the Country, that means big crops of those fruits which are widely grown," Mr. Gould says, "but growing fruits over such a wide territory as we do, there are generally adverse conditions in some sections which tend to cut production below "bumper crop" size for that year."

However, speaking of deciduous fruits we are talking about a lot of very different things. So let's get down to particulars. Take apples to start with.

During the last fifteen to twenty years, there has been a big decrease in the total number of apple trees, but there has been some upward trend in commercial apple production. That is just what you might expect.

When you look the country over and see just where the decrease has been and know what has been going on, you will find that the big decrease in trees has been mainly in the farm orchard regions where apple growing is not a commercial proposition. There, and in the marginal regions, where commercial apple growing at the best has been rather uncertain. Also a good many trees have been dug up in commercial regions to get rid of orchards that never had a chance to pay because they were not well located.

There has been a big decrease in the number of apple trees. But the decrease has been mostly of trees that never had and never would have very much effect on commercial production.

Meanwhile, Mr. Gould points out, there has come about a much better

understanding of pruning and its effect on apple production. Growers have acquired a much better understanding of the use of commercial plant foods; especially quickly available forms of nitrogen in their relation to fruit bud formation and fruit development; and an improvement generally in the care of the trees.

As a result of all that, he says, although we have fewer trees now, those fewer trees are yielding more and better crops than did the bigger number of trees twenty years ago. And the establishment by Federal and State agencies of standard grades and their wide use by growers and shippers has tended to help sell apples.

As for peaches, Mr. Gould says that so far as the South is concerned, the peak of peach production in Georgia and North Carolina has probably been passed. With the development of certain conditions in those states, there has been a decrease in peach trees there sufficient to hold production below what has been the maximum in the past.

So far as the rest of the Country is concerned, Mr. Gould said that there would seem to be enough peaches in sight potentially for all who want them. Plantings in general have not been more than enough to offset the going out of old orchards.

During the next few years growers and shippers will do well to make every effort to produce and market high-quality peaches. When market supplies are heavy, peaches of poor quality and condition, and of small size, often fail to pay the transportation charges and they may pull down prices for the better peaches. Proper cultural and grading practices are especially important at this time.

There has been an increase in the production of muskmelons and watermelons. That has been made possible by improved shipping facilities and control of watermelon diseases. These melons come into market at the same time as peaches, and cherries, and plums, and grapes. And although the competition is rather indirect, it seems altogether logical, Mr. Gould holds, that these fruits compete with the deciduous fruits during much of the growing season, from June to September and October. This is a competition which has not been felt until comparatively recently.

There has been a good deal of agitation for the greater use of fruits in the diet, and there undoubtedly has been a considerable increase in the per capita consumption of the various fruits. Certainly the increase in the production of some fruits and melons has been way beyond any increase in population which has taken place during the same time.

In the case of such fruits as plums and prunes there has been no material change in the last several years. There have been seasonal changes, of course, but there have been no wholesale decreases in the number of trees nor any extensive planting. Our plum and prune business seems to be on a pretty stable basis.

With cherries too, conditions are fairly satisfactory. There are seasonal fluctuations from year to year, on account of climatic conditions. There has been some tendency to increase plantings in some sections.

Pears are also on a fairly stable basis, with no pronounced swing in the number of trees or in the production of fruit.

On the other hand, grape production East and West is likely to continue to be heavy for several years to come. Special efforts have been made to improve distribution and develop new uses but the surest method of handling the grape situation still seems to be reduction in the bearing acreage especially in certain regions where the returns to the growers have been particularly unsatisfactory in recent years.

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ANNOUNCEMENT: Your farm reporter at Washington has just told us the status of the deciduous fruit industry as outlined to him by Mr. H. P. Gould, of the Fruit Production Investigations of the United States Department of Agriculture. This program is one of a series presented by this Station______ as a cooperator with the Department.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Monday, December 2, 1929.

NOT FOR PUBLICATION

Speaking Time: 9 Minutes All Regions.

LIVESTOCK REMEDIES

OPENING ANNOUNCEMENT: Last Monday your Farm Reporter told how hog cholera was discovered, how much it has cost hog raisers, and finally how modern science has brought the disease under control. Today the Reporter is going to discuss Proprietary Livestock Remedies. Are these remedies good? Are they bad? What purpose do they serve? Listen to the talk and then be your own judge. All right, Mr. Reporter, here's the 'mike.'

---ooOoo---

One time there was a little boy sick with blood-poisoning. All the doctors in the community has attended the case, and every reputable scientific remedy had been tried. The child grew worse. Death seemed inevitable. A "quack" remedy was brought in, but the leading doctor said it should not be used because it might upset the good work of some of the known medicine already in the child's system. The doctor was not guessing. He knew, from years of scientific research and experimenting, that the medicine he had given the child should have a favorable effect. It did. In a few hours the child showed signs of improvement, and finally recovered. This child owed its life to that doctor who stood by what he knew was right rather than guessing.

Your own Uncle Sam up here in Washington is playing the role of doctor for you every day by efficiently managing the Food, Drug, and Insecticide Administration of the United States Department of Agriculture. A score of well trained doctors, chemists, pharmacists, and other scientific men kept a close eye on nearly everything you eat. It is their business, among other things, to see that packages are not misbranded. If the label reads "Maple Syrup," then it's against the law to put any adulterants in the can bearing that label. If the label reads, "Cane Sugar Syrup Flavored with Maple" the law requires that the can contain just that. Uncle Sam's Food and Drug Workers are always watching these labels and examining the contents of the containers to see if they check out all right. When they fail to check out as they should, appropriate steps are taken to correct the situation, and I am informed that misbranding and adulteration is rapidly declining as a result of this campaign which involves confiscation of illegal merchandise and criminal prosecution when necessary.

Not only do Uncle Sam's scientists look out for us, but they keep watch

over the proprietary livestock remedies sold to raisers of cattle, horses, hogs, sheep, poultry and dogs. I thought some information on this subject would interest livestock people over the country generally so I went over and had a talk with Dr. H. E. Moskey, Veterinarian for the Food, Drug, and Insecticide Administration. He keeps an eye on everything that is sold which is supposed to cure some ailment in livestock. He watches the label on boxes containing horse powder, dog biscuits, cow medicines, chicken remedies, and every proprietary livestock remedy. I asked Dr. Moskey to give me a little education along this line of livestock remedies, and he opened up in this way.

Many manufacturers of veterinary preparations are honest and reliable. These men make every effort to label their products properly. Some firms, however, either through dishonesty, ignorance, or carelessness sell medicines bearing false and fraudulent claims on their labels, for example - "Here is a package of a cow powder, the label reads 'Good for sour stomach, indigestion, Garget, constipation, cramps in the stomach, wind colic, diarrhea, fever, sluggish liver, distemper, scours, and is a good regulator." Across the side of this can in large red letters I read the following--- "A MONEY SAVER AND A MILK PRODUCER." This certainly sounded like a great cow powder so I asked Dr. Moskey what about it.

"It can't possibly cure all the troubles named in that label, and we are taking active steps to take this product under its present labeling of the market," was the doctor's reply. Continuing, he said, "This 5 pound can sells for $5.00. I don't suppose it has over 50 cents worth of chemicals in it. A farmer buying such a remedy is wasting his money, time and effort, for no known drug, or combination of drugs, can do what this label claims."

Are there any drug remedies for hogs on the market now? I asked the doctor.

"Yes," he replied, "There are too many in some sections. The Corn Belt produces lots of hogs and there are plenty of drug remedies made and sold up in that section. Some of these have merit for certain conditions but many products we are now investigating are a waste of money to buy. Provide hogs with the proper feed, keep them in sanitary places, and many of these remedies will not be needed. Here is one that is supposed to cure hog flu, necrotic enteritis and clean the animal of worms. You might just as well feed the hog common salt for the good this remedy will do."

Tell me about some fake horse remedies you have come in contact with, Dr. Moskey.

"All right," he answered as he reached for a box of horse powders.

"Here is a powder that is supposed to cure a horse of influenza, distemper, and heaves." Will it do it? I quickly asked. "No," was the doctor's emphatic reply.

Do you have any trouble with dog remedies Dr. Moskey?

"Yes siree--- plenty of it," was his convincing reply as he pointed to a long row of bottles and boxes on the shelf. "Those contain various

dog remedies made and sold all over the country where they have dogs. That remedy in the big red box is supposed to cure dogs of distemper, black tongue, and running fits. The one in the green bottle is supposed to cure dogs of any and all kinds of worm troubles."

Well, what about them?

"Well," said the doctor, "Here is the trouble withe these remedies.

There is no known drug or combination of drugs that will cure all these troubles. We are insisting that the manufacturers quit making such false statements about what their remedies will do. For example, if a remedy is good for large round worms or ascarids in a certain animal, then the manufacturer should say so on the label. The same remedy would not be effective for another kind of worms, so it would be misleading and wrong to allow the label to state that this remedy is good for cleaning the animal of all worms. Our efforts are directed toward securing the truthful labeling of medicines.

Going over to a shelf Doctor Moskey pulled down a large black and white box covered with big red letters. "This," he said, "Is a remedy for abortion in cattle. It is supposed to cure it, stop it, and do everything. Now as a matter of fact, veterinarians know of no drug or medicine that will cure this costly livestock ailment. This product is an out and out fake.

I asked Dr. Moskey what section of the country bought and used largely of these remedies, and he replied, "All sections. In the Corn Belt it's hog remedies, in the East it's dairy cattle treatments, on the Great Plains it's cattle and sheep remedies, on the Pacific Coast it's chicken remedies, and in the South it's dogs and chickens."

At this point I asked the doctor what specific things his department had done to bring about a better condition in this livestock remedy field. He put his reply in this way --

"During the past few years the Administration has taken active steps against products labeled for contagious abortion in cattle, hog cholera, hog flu, necrotic enteritis in hogs, and worm remedies. In fowls we have had to take steps against remedies labeled for cholera, diarrhea of chicks, coccidiosis, roup or diphtheria, chicken pox, gapes of chicks, and blackhead of turkeys. It has been necessary to take action against remedies labeled to cure distemper in dogs, black tongue and running fits. For horses we have been clamping the lid a little tighter on some of the labels for curing distemper, influenza, and heaves.

"One remedy that was chased off the market was composed of brown sugar and wheat bran. It sold for 50 cents per pound and cost about a nickel. This company sold about $15,000 worth of this remedy every month. In this case the Administration is saving dairymen at least $180,000 a year.

"We recently had a general worm remedy come into the laboratory for inspection and analysis. It was supposed to get rid of all kinds of worms.

Upon examination the remedy was found to be composed of 95 per cent of water and had in it no medicine or drug effective against any type of worm, in poultry, or any other animal."

"Unfortunately," Dr. Moskey stated "our law does not give us any authority to correct the advertising matter which does not accompany the package. Some manufacturers correct their labelings to meet the requirements of the law. These same manufacturers very often advertise their products in most extravagant and unwarranted terms. We are powerless to correct this type of fraud when it is taken to the public through farm papers, newspapers, over the radio, and through circulars, booklets, etc. distributed by the salesman."

In conclusion, Dr. Moskey gave me to understand, that they were not making any fight against legitimate manufacturers of livestock medicines and there are many of them, so long as the manufacturers label their products truthfully.

I told you in the beginning, that you are to be the judge, and now I'm going to leave the matter in your hands. Your Uncle Sam up here in Washington will keep right on playing the role of doctor and checking on the things you and your livestock eat and use as medicine.

The Department has prepared notices on fake livestock remedies, worm expellers, and dog medicines. These can be secured by addressing the Farm Reporter in care of this station, or send your request direct to the United States Department of Agriculture, Washington, D. C., and it will have prompt attention.

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ANNOUNCEMENT: You have just heard the Farm Reporter tell about proprietary livestock remedies, and what Uncle Sam is doing to protect the men and the horse in this country. This program comes to you through the cooperation of the United States Department of Agriculture and Station__________.

UNITED STATES DEPARTMENT OF AGRICULTURE Radio Service OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Tuesday, December 3, 1929.
(Gulf Coast and California)
Regions 3 and 5

Crops and Soils Interview No. 12b: The Status of the Citrus Industry.

ANNOUNCEMENT: Just what is the present status of the ditrus industry in this country? That is what we directed your Farm Reporter at Washington to find out from the specialists in the United States Department of Agriculture ---- All right, Mr. Reporter are we going to have enough oranges and lemons and grapefruit?----

---ooOoo---

The citrus growers, both on the Gulf Coast and in the Southwest, seem to be solving many of their most puzzling problems. At least, that's what I gather from talking to Mr. T. Ralph Robinson, of the Bureau of Plant Industry.

Of course, the infestation of certain areas in Florida by the Mediterranean fruit fly has caused a temporary dislocation of the citrus industry of that state; but, as Mr. Robinson says, methods have quite rapidly been worked out for the inspection and clean-up of groves and the sterilization of fruit, so as to permit the movement of the Florida crop, without sacrificing any element of safety.

There is this year a short crop in California and Florida, but California is still marketing a large hold-over crop of Valencia oranges which are left unpicked or in "tree-storage" all summer. In years of large crops the fruit runs heavily to small size oranges. But the increased use of citrus fruit juices, and the development of a better foreign market by shipments to England and the Continent, which take the small sizes better than the American markets, are factors of great assistance when there is an excess of small organges.

Florida and California do not compete sharply in our citrus markets except for a few months of the year. California produces chiefly oranges and lemons, and Florida chiefly oranges and grapefruit. The California navel orange crop comes on from Christmas to April and during this time does compete with the Florida mid-season and late varieties. The California Valencia orange market is from May to November, when Florida orange shipments are very small.

The chief new development in California citrus growing, has been in the increased planting of Valencia oranges which do not compete to any great

extent with the main Florida crop. There has been no great expansion, however, even in the Valencia acreage.

South Texas citrus fruit acreage is 80 per cent devoted to grapefruit, and only about ten per cent of this acreage has come into bearing. The influence of this new factor in the citrus industry is already beginning to be felt especially in the mid-western cities, where Texas grapefruit competes on even terms with Florida grapefruit.

Our prospective production of citrus fruit based on acreage not yet in bearing is potentially greater than the market at present would seem to warrant, barring of course some disaster in the way of great freeze. In some cases, citrus fruits are meeting keen competition from other kinds of fruits.

For instance, increased shipments of Honeydew and Persian melons during the fall are having a noticeable effect on the use of grapefruit as a breakfast fruit.

On the other hand, there is another development going on which promises to help offset the threatened overproduction of grapefruit. That is the use of canned grapefruit and canned grapefruit juice. Mr. Robinson says that fully ten per cent of the Florida grapefruit crop is even now being used for canning. Last year, nearly one million cases of canned grapefruit were shipped from Florida and a quarter of a million cases of grapefruit juice.

Through the development of canned grapefruit, the industry is able to reach many small places where the fresh grapefruit is not ordinarily available on account of transportation and other handling difficulties. Through the canned product, grapefruit is also made available during the four or five months in summer when the fresh grapefruit has heretofore been absent from the regular menu of the country.

A start has also been made in the canning of Florida and California orange juice. This new canning industry, both of grapefruit and oranges, takes care of a lot of good fruit which is not suited for long distance shipment, either by reason of being off-size, or scarred, or otherwise blemished.

Likewise, the by-product uses of off-grade lemons in California in the manufacture of citrate of lime pectin and lemon oil has been largely instrumental in stabilizing the lemon industry, turning a waste product into a source of profit.

The foreign trade in grapefruit is going up. Direct boat shipment from Florida ports to England and the European continent are being made in increasing amounts. These boats are equipped with cold storage facilities so the fruit can be carried in perfect condition. The European markets take readily the smaller sizes not popular in the United States.

Direct boat shipments of citrus fruits are also becoming a factor in California, the fruit held in cold storage compartments reaching the foreign

markets, as well as the eastern markets of this country, by way of the Panama Canal.

At times, the New York market is affected by shipments of grapefruit from Porto Rico. Although the Porto Rican shipments are not very large on a season basis, they often come on the market in large lots which are sold at auction at a single sale.

The hurricane of September, 1928 nearly wiped out the citrus crop for this year in Porto Rico, so that for this season Porto Rican fruit is a minor factor. The set-back is, however, only temporary. And the Porto Rican fruit will probably be back on the market in normal amount next year.

Summing up the situation as pointed out by Mr. Robinson, it seems that there will be plenty of oranges, and grapefruit, and lemons this year, though the prices will be somewhat higher than last year where both Florida and California had bumper crops. While there is at present grove acreage in bearing and soon to come into bearing potentially capable of bringing about overproduction of citrus fruits, especially grapefruit, the development of new market outlets, through increased consumption here and abroad, gives promise of doing much toward the settlement of the citrus surplus problem of American growers, both in the southeast and the southwest, in the years just ahead.

---ooOoo---

ANNOUNCEMENT: Your Farm Reporter at Washington has just reported on the status of the citrus industry as outlined by Mr. T. Ralph Robinson, of the Bureau of Plant Industry. This interview is one of a series broadcast by Station______ through the cooperation of the United States Department of Agriculture.

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UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Wednesday, December 4, 1929

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

Poultry Interview No. 12: VITAMINS IN THE POULTRY DIET

ANNOUNCEMENT: At the request of Station______YOUR FARM REPORTER AT WASHINGTON has been gathering up the latest information on vitamins. He's ready now to make his report. We'll now hear from him on the subject "Vitamins in the Poultry Diet."

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No one knows just exactly what vitamins are. And yet it's very easy to prove that they do exist.

The term vitamin, you know, is a group name given to certain substances in natural food materials. Certain substances that are quite apart from proteins, fats, carbohydrates and minerals.

We know that these substances are present because an animal ration containing plenty of proteins, fats, and carbohydrates and minerals may still be lacking in some essential element. Two pens of poultry, for instance, can be given foods containing exactly the same amounts of proteins, fats, carbohydrates and minerals. One will grow and thrive and lay eggs. The other will be weakly, subject to disease, and will produce very few eggs. The answer is that the ration fed the first pen contained the necessary substances we call vitamins. The second ration was deficient in these substances.

That's how vitamins were first discovered, by the way, And now, since we know about vitamins, it's a very simple matter to prove that they are present in foods. Anyone can very easily conduct such an experiment to his own satisfaction. Vitamins constitute only a very small part of the ration. But if they are lacking the results are very marked.

Mr. A. R. Lee, Department of Agriculture poultry husbandman, told me of an experiment conducted on the government poultry farm. The experiment was to test the effect of a lack of the substance designated as vitamin D. Eighty Rhode Island Red Chickens were divided into two pens. Both pens were confined so that they received only indirect sunlight, sunlight being a valuable substitute for this vitamin. Both were fed complete rations, except that the first pen was given codliver oil, a rich source of vitamin D.

Well, at the end of 12 weeks the chickens in Pen No. 1 averaged 2.7 pounds apiece. Those in Pen No. 2 weighed an average of only 1-1/2 pounds, little more than half as much. And all of the chickens in the first pen lived and thrived, whereas in the second the mortality was heavy.

So far six vitamins have been found to exist in foods. And each one is essential for proper animal nutrition. For poultry the third vitamin, vitamin C, does not seem to be necessary. But for human beings and certain other animals it is.

Let's run over the six vitamins briefly. First, vitamin A. Lack of vitamin A in the diet causes poultry to stop growing and lose weight. It also lowers their vitality and makes them less able to resist disease. Young and growing chickens naturally require more of this vitamin than mature fowls.

Where does vitamin A occur? Well, it is fairly well distributed. It is associated with many of the fats. All green feeds, codliver oil, yellow corn, egg yolk, tomatoes, yellow carrots, and milk are the principal sources.

Vitamin B has recently been found to be two vitamins instead of one, so we'll divide it into B-1 and B-2.. Vitamin B-1 is easily destroyed by heat, while B-2 is comparatively stable to heat.

Taking the two together, they are the most widely distributed of all the vitamins. And they're usually well supplied in ordinary poultry rations. Corn, wheat, oats, middlings, and bran contain considerable quantities. And they're abundant in all green feed and in yeast.

The complete absence of vitamin B from the diet is followed in a short time by loss of appetite, rapid loss of weight, and death. And it doesn't take long for these symptoms to show up. The body apparently can't store up this vitamin as it can vitamin A, for instance.

Vitamin C, as I've said, does not seem to be needed by poultry. In man, guinea pigs and certain other animals, however, the lack of vitamin C in the diet is the cause of scurvy.

Now for vitamin D, a very important one to poultry growers. Lack of it causes leg weakness, or rickets, in brooder chicks. The reason is that Vitamin D makes it possible for animals to utilize minerals which go to build up the bones. This vitamin is most abundant in cod liver oil and egg yolk, but some of the green feeds and milk also contain small quantities.

The last vitamin we know about is vitamin E. It affects sterility. It seems to be necessary to reproduction. The richest source yet found is the wheat germ. Green feeds, germinated oats, yellow corn, and cottonseed and olive oils contain it in small quantities. Milk also contains it in very small amounts. Codliver oil, though, contains none at all.

Fortunately, you see, the grains commonly fed to poultry, expecially yellow corn, furnish a fair supply of vitamins. It isn't hard to prepare a ration supplying all of the necessary vitamins in sufficient amounts. And as green feeds contain practically all the vitamins their value is very apparant.

Mr. Lee said that vitamins for poultry feeding should ordinarily be supplied in the natural feeds and not bought from the drug store. However, at this time of year particularly, it's usually necessary to give a little cod liver oil. Cod liver oil should be fed to hens which are kept confined to the house, and also to breeding fowls during the winter and early spring months.

Since cod liver oil is rich in both vitamins A and D it is also essential in the ration of chicks while they are confined to the brooder house. It tends to prevent leg weakness. After the chicks are out of doors, in the sunlight and on good grass range, the oil, of course isn't necessary.

As to the feeding of cod-liver oil Mr. Lee gave me the following suggestions: Add from one pint to one quart of oil to each 100 pounds of mash for either chicks or hens. Mix it with a small quantity of the feed and then incorporate it in the entire mixture. Don't however, mix more than two weeks' supply of feed with the oil.

Many poultrymen are also feeding the codliver oil in the scratch grain instead of in the mash. And that seems to be a good idea, Mr. Lee said. It's easier to mix, for one thing.

Now just a word about direct sunlight. As you know, direct sunlight serves as a substitute for vitamin D, and it is effective in curing leg weakness. It is needed by poultry of all ages.

This health-giving property in sunlight is found in ultra-violet rays. But these rays will not pass through ordinary window glass. Glass substitutes used in poultry buildings are of some advantage in this connection. They allow some of the ultra-violet rays to pass through, provided they're kept free from dust. But Mr. Lee says that the results are not as good as those obtained from direct sunlight.

So far we've been considering the necessity of vitamins only in connection with poultry health and growth. There are other reasons why they are necessary. I have time for just one example.

You'll remember that egg yolk is one of the most valuable sources of vitamin D. In fact, the most valuable next to the fish oils. The presence of this vitamin in the yolk add greatly to the value of eggs, especially in the diet of children. Well, the point is that the Vitamin D content of eggs is affected by the feeding and management of the hens. To store this vitamin in her eggs the hen must first get it in her ration.

ANNOUNCEMENT: That was YOUR FARM REPORTER, ladies and gentlemen, giving you the latest information in vitamins—viramins in the poultry diet. If you have any questions drop him a line. Address your letters either to Station____or to The Department of Agriculture in Washington.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Thursday, December 5, 1929.

Regions 2, 4, and 5

Cooperative Interview No. 12a: What's Ahead of Farmers' Elevators.

ANNOUNCEMENT: "What's ahead for Farmers' Grain Elevators? That's what we told your Farm Reporter at Washington to find out for us. Now he is going to give us the answer as he got it from the specialists in the Cooperative Marketing Division of the Federal Farm Board ---- All Right, Mr. Reporter----

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The future of farmers' elevator associations looks very hopeful. As Mr. W. J. Kuhrt in charge of the grain section of the Cooperative Marketing division of the Federal Farm Board, explained to me some big changes are taking place in the organization of cooperative grain marketing. Those changes are going to give grain growers who are members of elevator associations big advantages, if they make use of their opportunity.

As you know, the Federal Farm Board has helped set up a Farmers' National Grain Corporation, and a regional association in the northwest, called the North Pacific Grain Growers Cooperative Association. Local associations, operating farmers' elevators, that comply with the provisions of the Capper-Volstead Act can become members of these organizations.

In the set-up of the national organization and the regional associations, recognition has been given to the fact, established by experience, that in forming large organizations it is desirable, if not absolutely necessary, to have some sort of local organization where the farmers can meet, where they can get their returns, and market information, through which they can voice their complaints, and have some definite tangible evidence of membership in the cooperative.

Mr. Kuhrt pointed out that under the present plan, the local associations are going to be the foundation for the regional and national associations. No interference with the local is contemplated. There will be no centralized control of local operations. Control will be left in the hands of the local elevator association. There will be no ownership of local elevator facilities or equipment by the central organization. Ownership will stay in the hands of the grain growers.

"What advantage will there be to the local elevator in belonging to the regional and national associations." I asked Mr. Kuhrt.

"There will be several advantages," he replied. "First, by affiliation with the Farmers' National Grain Corporation the farmers' elevator associations will be provided with a cooperative grain sales agency, which will not only be able to operate at a low cost, but by control of a large volume of grain will tend to stabilize market conditions.

"Second, the central organization will be able to furnish some supervision and helpful guidance in grading, and docking, book-keeping, and accounting and other local operations which will result in improved business practices.

"Third, the Farmers' National Grain Corporation will be able to make loand at a low rate of interest to local associations. The loans may not only be made on physical equipment; but the Corporation will be able to make loans for current operating expenses and also for the purpose of making advances to the growers in Associations which satisfy the requirements of Intermediate Credit Banks.

Mr. Kuhrt pointed out that a new arrangement has been worked out in the form of a contract which, he predicted, will probably have quite an effect on the whole grain organization work.

This contract will be used in local elevator association in dealing with farmers. It requires that the farmer deliver all the grain he has for market--------but, the farmer is given the choice of three ways to market his grain. He can use any one or all these ways in disposing of his crop. He merely has to decide which way he wants his crop or any part of it sold when he delivers the grain.

Here are his three choices: First, he can either make the sale on the day he delivers the grain and at that day's market price at his local elevator; or Second, he can put his grain in storage in the local elevator and pay storage on it, and then sell whenever he sees fit to sell. Of course, there is a limit to the time in such deferred sales. The grower can't hold his grain over until the next market season. Then, he has a third option, which is to sell in the seasonal pool. That is, he places his grain with the local association and has no further control over the sales. He takes the average seasonal price.

In other words, all the main ways of marketing grain now open to farmers are provided for in these new contracts.

From what Mr. Kuhrt said, I gathered that under this new arrangement the local elevator association will get all the advantages of local control together with the advantages of a centralized selling agency and additional loans to carry on the business.

I asked him just what the local elevator associations will have to do to get these advantages --- to become members in this big organization. He repeated that they would have to comply with the provisions of the Capper-Volstead Act.

Stated simply, the main principles of the Capper-Volstead act require that the membership of the association must be made up of agricultural producers. Second, the organization must be operated for the benefit of the members. Third, the association must do as much or more business with its members than it does with non-members. And fourth, it must limit its dividends to not to exceed eight per cent or be conducted on the one vote per member principle.

Mr. Kuhrt pointed out that about half the farmers' elevators are already organized so they meet these requirements. In a good many other cases, the associations will merely have to change one or more of their by-laws. In other cases, however, associations may have to re-incorporate in order to meet the requirements.

However, the farmers' elevator associations which become members of a regional association tied up with the Farmers' National Grain Corporation will have a big advantage in marketing their grain.

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ANNOUNCEMENT: You have just heard your Farm Reporter at Washington tell of his interview with Mr. W. J. Kuhrt, of the cooperative marketing division of the Federal Farm Board. Mr. Kuhrt told what's ahead for farmers' elevators. This time next week another Federal Farm Board specialist will give us information on some other phase of the cooperative movement.

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UNITED STATES
DEPARTMENT
OF AGRICULTURE
Radio Service
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YOUR FARM REPORTER AT WASHINGTON.
(For Region 1)

Thursday, December 5, 1929

Cooperation Interview No. 12b: Lessons from the Failure of Tobacco Cooperatives.

ANNOUNCEMENT: Your Farm Reporter at Washington has been inquiring of the specialists in the cooperative marketing division of the Federal Farm Board, about the tobacco cooperatives which went to smash. It seems he learned a lot of interesting things about some of the wrecks--and why they happened.--Well, Mr. Reporter, what did they say.

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Well, foresight is better than hind-sight. But hind-sight may help us use foresight next time. That's the way it is with the tobacco co-ops that went on the rocks. I gather, from what Mr. A. W. McKay, chief of the cooperative marketing division of the Federal Farm Board, says, that the failure of one tobacco association has in it a lot of lessons for other cooperatives, especially tobacco cooperatives. If we heed those lessons, they may help us toward success.

To point out the lessons, Mr. McKay takes the failure of the tri-State Tobacco Growers' Cooperative Association, because a special business analysis was made of that organization after it went under. Experts gave a thorough study to finding out why. They found there were many causes.

As you recall, that Tobacco Growers' Cooperative Association of Virginia, North Carolina, and South Carolina failed after running four years during which it received over $100,000,000 worth of tobacco and signed up nearly 96,000 members. It tried to secure delivery of over half of the Virginia sun-cured, Virginia dark-fired, and flue-cured types of tobacco grown in three States. Instead of that they only got about a third.

By signing up half the crop, the Association leaders thought they could get a monopoly control of the market and practically dictate the prices. Right there, they made a big mistake.

According to Mr. McKay, a tobacco co-op can't rely upon monopolizing the market for any length of time. High prices cause more tobacco to be raised both inside and outside the association; And tobacco is a crop in which it is comparatively easy to increase the acreage.

That idea of monopoly control was the foundation of a lot of other trouble in the Tri-State. It led to extravagance and excessive costs in the management of the association. Thinking any extravagance would look small, beside the prices they would get, there was too little effort made to keep down expenses. Extravagant promises were also made to get members to sign up.

When members learn that cooperative marketing can not hope to control or set prices, Mr. McKay points out, their organization will be operated on a more efficient, and economical, and business-like basis, and failures will be fewer.

Besides having a fundamentally false aim, the tri-State had an inexperienced Board of Directors. Although many of them were good business men in their own lines, few of them had any intimate knowledge of tobacco marketing, nor any close knowledge of many of the complex, technical problems with which such a big tobacco organization has to deal.

The leaders had a fairly good idea of what the association should do, but they had had no experience in so big a business. They were venturing into an uncharted sea. At the outset, they made the mistake of not hiring a full-time executive with the power and experience needed to coordinate the work of the different departments in a smooth-running organization.

As a result there were conflicts between departments. This resulted in inefficiency. The sales policy of the association also did not meet the demands of the buyers and large stocks of tobacco accumulated in the hands of the cooperative. When a cooperative undertakes to carry the surplus and growers on the outside are able to sell immediately for cash, there is trouble ahead.

Mr. McKay declares that when any attempt is made to bring into existence an organization of the size of the Tobacco Growers' Cooperative Association, capable and experienced management must be provided if the association is to succeed.

Among the many mistakes made by the management in this case was over-estimating the quantity of tobacco the association would get, and overestimating the space needed to handle the tobacco. As a result, the association bought more warehouses than it needed.

Such extravagance helped cause dissatisfaction among the members, Another thing contributing to member dissatisfaction was the ironclad contract which obligated the member to deliver his crops to the association for five years.

Of course, marketing contracts are necessary in a cooperative, but Mr. McKay points out that most cooperatives now have a provision in the contract which permits the dissatisfied member to withdraw at certain times during the life of the contract.

Dependence upon a legal tie to hold members, he says, has proved a mistaken policy. If a member is thoroughly dissatisfied, the interest of the association as well as the member's own interests are best served by cancelling the contract.

Another mistake was that the whole organization campaign was conducted as a fight. The management of the association aroused the antagonism of other tobacco marketing agencies unecessarily. Naturally, a cooperative tobacco marketing association formed where there has been a different method of marketing for a long time would meet opposition.

However, business men and the tobacco manufacturing companies should realize that their own business can not continue to be successful if the farmers are not prosperous. For this reason they should have more to gain than to lose from cooperative marketing.

From the experience of the Tri-State, it seems that the cooperative marketing of tobacco can not be successful without business cooperation between the manufacturing companies and the growers organizations. It is to the common

interest of both growers and manufacturers to have a steady, even market for tobacco at prices which will be fair to both.

Mr. McKay suggests that new organizations could be formed built on the principles of service, and stability, and economy for both tobacco growers and tobacco manufacturers, with cooperation instead of opposition between them.

The need for some such arrangement is one of the chief lessons to be learned from the disrupting fights between growers and manufacturers in the tobacco business.

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ANNOUNCEMENT: Your Farm Reporter at Washington has just reported to us the lessons to be learned from the failure of tobacco cooperatives, as outlined to him by Mr. A. W. McKay, chief of the division of cooperative marketing of the Federal Farm Board. This time next week, this Station------will present another program in cooperation with the Federal Farm Board and the United States Department of Agriculture.

UNITED STATES
DEPARTMENT
OF AGRICULTURE
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YOUR FARM REPORTER AT WASHINGTON Thursday, December 5, 1929

Region 3 - Cotton Belt

Cooperative Interview No. 12c: Significance of Payment for Cotton by Grade and Staple.

ANNOUNCEMENT: Each Thursday your Farm Reporter at Washington reports a talk with specialists of the Federal Farm Board's cooperative division. For today's report we instructed him to get us some information about the significance of payment for cotton on the basis of its grade and staple. ---- All right, Mr. Reporter, what about it?--------

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Dr. J. S. Hathcock, of the cooperative division of the Federal Farm Board, says that the most outstanding criticism of the present marketing system for cotton is that the cotton is not bought from producers on the basis of quality.

The average cotton buyer does what we call "hog-round" or "point" buying. That is, the price paid for the cotton is on the basis of the average quality of cotton produced in that community or that territory.

That's obviously unfair, Dr. Hathcock says. It results in overpayment for less-than-average quality cotton, and under-payment to the grower who has cotton of better-than-average quality.

But that's not the worst of it. Since the growers are unable to class and staple cotton themselves, they are forced to rely on the price they get to indicate to them the quality of cotton they are producing. That average or hog-round price does not differentiate between grade and staple, or quality in cotton. Cotton is just bought as cotton from the grower.

Before that cotton leaves the hands of the buyer, however, it is graded and classed so as to get the substantial premiums offered for the better qualities of cotton.

The spinning utility of the better quality cotton is much greater than that of the poorer quality. The better grades can be manufactured into cloth at less cost. The longer staple cottons go into fine-goods which command a better price.

So you see, after the cotton is sold by the grower it is paid for according to quality all along the line. Mr. Hathcock declares, that the better prices for better quality cotton should be reflected back to the producer so he will be encouraged to improve the quality of his cotton.

As it is, the quality of American cotton has been going down hill for many years. At the same time, production in foreign countries has been increasing. Now, the chief competitor of American cotton in the world's market is the short staple cotton of India. India now produces six or seven million bales of the very short staple.

When American farmers produce short staple cotton they are competing directly with India. If American cotton is to hold its place in the foreign market, American cotton growers must improve the quality. If American cotton growers are to improve the grade and staple of their product, they must have the incentive of better pay for a better product.

As Dr. Hathcock recalls, efforts have been made for a long time to plant varieties which yield stronger and longer staples. Many communities have tried the plan of growing one variety of cotton, so as to get a uniform staple which might command a better price. But efforts along this line, have been more or less ineffectual because of this old system of buying on the "hog-round" basis, which did not reflect the premium which the quality of cotton justified.

In some cases, the average of the community might be raised, but the raising of the average defeated the end sought. Raising the average price attracted cotton into these community markets from the outlying country where lower grade cotton was raised. This "bootleg cotton" bought up as community cotton at the average price, soon resulted in lowering the prices offered in that community.

As a result, many growers have drifted away from the community program and failed to continue to improve their crops for lack of a market which would consistently pay on the basis of grade and staple.

With cotton being sold on the basis of the average quality, many growers not only failed to improve the quality of their cotton further, but even took up the planting of the so-called half-and-half varieties to get a bigger percentage of lint regardless of quality. Growing on such a basis has tended to further deteriorate the quality of American cotton Dr. Hathcock suggests.

However, he points out that one of the principal objects of the cooperative marketing association is to make returns to the growers, so that the individual producers will be in a position to determine for himself whether he can produce cotton of certain staple length more economically than he can grow some other variety and staple length.

In other words, payment for cotton according to grade and staple in the cooperative association will enable the grower to judge his production practices much better than is now possible under the present system.

Through the cooperative, the members' cotton is sold in pools with other cotton of like grade and staple. He gets paid for the kind he produces.

In that way, he is rewarded for the extra effort to grow better cotton. Experience in getting better prices for better quality cotton, Dr. Hathcock holds, will lead to the gradual improvement of American cotton, and may enable this country to hold its position in the world's markets in spite of the increased production of short staple cotton in India.

At the present time, however, individual cotton growers with better-than-average cotton but who market outside the cooperative are practically putting their better cotton in a low-quality cotton pool. That is what marketing on the hog-round or point basis amounts to.

Cooperative selling on the basis of grade and staple avoids this practice which has been one of the chief factors in lowering the quality of America's greatest crop.

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ANNOUNCEMENT: Your Farm Reporter at Washington has just told us of the significance of payment for cotton by grade and staple as pointed out by Dr. J. S. Hathcock, of the Federal Farm Board. This time next Thursday Station--- --- will present another of these interviews in cooperation with the Federal Farm Board and the United States Department of Agriculture.

UNITED STATES
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YOUR FARM REPORTER AT WASHINGTON Friday, December 6, 1929

NOT FOR PUBLICATION

Speaking Time: 10 Minutes

Dairy Interview No. 12: WHAT IS THE PRICE OF BUTTER?

ANNOUNCEMENT: One of the most important things in all business is the matter of price. Sometimes prices of the same kinds of products in the same markets vary. Why? To get an explanation of the influences which change the prices of dairy products we had YOUR FARM REPORTER interview a dairy marketing specialist of the Department of Agriculture. Let's have your report, Mr. Reporter.

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The marketing specialist I went to see was Mr. L. M. Davis, of the division of dairy and poultry products in the Bureau of Agricultural Economics.

"A thing that puzzles a good many people, Mr. Davis," I said, "is this: Why don't retail prices of butter, for example, follow the daily or weekly price fluctuations on the big wholesale markets? For instance, I remember one recent occasion when the butter market momentarily took a drop. But our grocer continued to charge us the same price for butter. When big distributors handle butter why aren't the price changes reflected back to consumers?"

I had a feeling that this might be considered a foolish question. But Mr. Davis didn't consider it so.

"I'm glad you brought that up," he declared. "But I can't answer you in a single sentence. Or in a few sentences. It involves the whole question of price. And there are a lot of things that we need to understand in order to get a clear picture of the situation."

"However," he went on, "to answer your question off hand, here are some of the reasons retail prices can't change every day like wholesale prices can. Wholesale prices, you see, reflect the immediate supply and demand conditions on the big wholesale markets, and thus, prices may change daily, although as a matter of fact, it is exaggerating things a bit to suggest that they do change every day. Theoretically, this changing of prices should continue on down the line, but there are some practical reasons why this theory does not work out that way. Retail prices can not well do this for several reasons. In the first place, most retailers do not consider it good policy to make any more changes in the prices charged consumers than are absolutely necessary. The consumer, so the retailer figures, is better satisfied with a fairly uniform price than one which is constantly changing, and this may be good reasoning if it is taken into account that consumers do not and cannot keep well enough informed to understand the reasons for all wholesale price changes which occur on the many commodities they buy.

Butter is no different in the matter of retail and wholesale price relationships than other food products consumers purchase in large quantities. The same condition exists with reference to meats, for example. Then, the retail dealer may buy his supply of butter for a week's requirements at one time, and from the standpoint of protecting himself in the matter of profits, he prefers to avoid daily retail price fluctuations. So if the price of butter is around 45 cents most retail dealers keep it there until there is, say, a 5-cent change in wholesale prices. A change of a cent or two on the wholesale market, therefore, doesn't affect the retail price.

Let's consider for a moment just what price is, anyway.

"When you mention price do you mean the price of 92-score butter, or 90-score butter, or 88-score butter. Right here, perhaps, lies one of the chief explanations why so much confusion can arise in talking about butter prices. It depends, of course, upon where your chief interests lie. Producer, distributor and consumer each has a different conception of price, each regarding it from the standpoint of his own personal interest and understanding.

"This also helps to explain another question that many people wonder about. Why is it that one butter dealer in your town retails butter at 50 cents and another one at 54 cents? There may, of course, be a number of factors entering in here. But the question of quality is usually a prime influence.

"Consider for a minute the marketing process. The country creamery, we'll say, sends its butter to a wholesaler who buys in large quantities. The wholesaler pays for butter strictly according to quality -- according to score. There's no confusion here. The wholesaler in turn sells in smaller quantities to the jobber. Now, it's the jobber's business to break his purchases up into still smaller quantities and distribute them to retailers. He also packages the butter, and usually applies a trade name, or brand. Here, you see, is a development that may confuse us when we consider price. The jobber doesn't always sell the butter on the basis of its exact score. He usually sells it according to brand. And both retailer and consumer buy on that basis. The consumer doesn't necessarily know the quality of the butter purchased, although it is possible the past few years, to buy Government certified butter in some cities. This is butter which was graded for quality by a Government grader when packaging took place and a certificate indicating quality inserted at the time. Going back to the case of the two dealers in the same town, each sells a certain brand. One brand may be butter that scored 90. The other may have scored 91, 92, or even 93. This may explain, you see, why the first man can sell his brand for 50 cents while the other might have to charge 54. The higher score product cost the retailer more."

"Of course from the standpoint of the consumer, brands may just be brands, that is, unless he takes the trouble to find out about quality comparisons or unless he recognizes that the higher-priced brand is sufficiently superior to be worth the extra few cents. In such a case the higher price is certainly legitimate. But remember right here, the highest price does not always mean the highest quality.

Among other factors that may cause different prices in the same market on the same day are those of credit and delivery services, the location of the market or the willingness of customers to pay for high quality and service, the character of competition, and so forth. This disturbance of the relationship be-

tween quality and price, though, is often apt to be the main factor."

"Retail prices of butter then," I remarked, "are not really a measure of the relationship between price and quality."

"Exactly," Mr. Davis returned, "You see it boils down to this. On the face of it you shouldn't call a man a highway robber because he gets two cents a pound more for butter than his competitor across the street. It may be that he's selling a higher quality product. Or it may be that he is providing some type of service the other dealer doesn't provide. But of course, sell in small units, but one may give credit, or he may have delivery service, all of which have to be considered in determining price. Thus there may be perfectly good reasons why one retailer can and should get more for his butter than another."

"Now, getting back to your original question, you can see how this all leads us into complications. Since quality and price on the wholesale market and quality and price on the retail market do not bear the same definite relationship to each other, and because of the other factors mentioned, it is hardly to be expected that retail prices will follow daily wholesale price fluctuations.

At this point I put in another question. "Why is it," I asked, "that milk prices, for instance, vary at different markets in the same vicinity? I was referring particularly to a case I noticed on a recent report of the Bureau of Agricultural Economics. The milk price at one city was 12 cents. At another cit in the same state it was 14 cents.

"Well," he replied, "in the first place the price might be affected by a difference in quality or grade. A very important consideration is that of sanitary requirements. Some cities are more strict than others in their requirements. It costs more, of course, to produce clean milk.

"Then butterfat content may have something to do with it, since the milk in the one city might be 3.5 per cent butterfat, while in the other it might be 4 percent. When assured of safe, high grade milk consumers are usually very willing to pay the bill."

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ANNOUNCEMENT: The next time YOUR ANNOUNCER asks the price of cheese he'll be more careful to specify what kind of cheese. After hearing YOUR FARM REPORTER'S talk today it does seem evident that most of us use the term 'price' rather loosely. If you have any questions about YOUR REPORTER'S interview with Mr. Davis write to him in care of Station_____. Or at the Department of Agriculture in Washington.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Monday, December 9, 1929.

NOT FOR PUBLICATION

SPEAKING TIME: 9 Minutes. ALL REGIONS

Livestock Interview: GIVE THE CHILDREN LIVESTOCK FOR CHRISTMAS

OPENING ANNOUNCEMENT: For the next 8 or 9 minutes we are going to listen to your Farm Reporter talk about Christmas presents for the boys and girls. Children want something at Christmas,---- and most children appreciate something that moves.------They like action. All right, Mr. Reporter, tell us what to give the children for Christmas.

---ooOoo---

Well, folks, it won't be long now until Santa Claus will come bustling down from the Northland. It is reported that old Santa has already roused from his summer sleep and is well on his way towards our chimney tops. It will be necessary for him to make many, many stops before he finally fills our stockings. At these stops he will take on new supplies, and receive all the letters sent to him between now and Christmas. So you see there is still time to include presents for every member of the family.

Naturally, Kris Kringle's first concern-- and the first concern of all of Kris' assistants in farm homes and every other home--has to do with the sort of presents to get for the children. Now I aim to be helpful in every possible way so I've nominated myself to inquire around and see if I can get some pointers for parents of farm children on Christmas presents for the boys and girls.

As you may have suspected from hearing me, I'm somewhat like that other gentleman, Will Rogers, who sometimes is heard by radio. Only, while Will Rogers knows only what he reads in the papers, I know only what I find out from your Federal scientists and economists in Washington.

And it's not so far-fetched to go to these men for some hints for Christmas presents for farm children. All of them come from farm families, a good many of them operate their own farms in Virginia or Maryland near Washington, and they thus may lay some claim to a hearing at least on the matter that I questioned them about in preparation for today's talk. That matter is whether or not it's worthwhile to give farm animals to farm children as Christmas presents.

In all reverence, one of them pointed out to me that animals for Christmas gifts certainly are consistent with the scene of the first Christmas--

the scene so familiar to all of us from the study of the artists' protrayal of the humble stable in the far off Judean hills.

Such qualities as kindliness and gentleness, often are developed by the care of a pet animal," this man commented. "Here, certainly is a most practical manifestation of the Christmas spirit.

"It's wonderful for children and animals to grow up together. They seem to understand, and each helps the other. I knew a 4-H Club boy in Arkansas who received a dog one year for a Christmas present. The next Christmas he was given a calf. The boy and the dog played together constantly for many years. The care of the calf established the boy's interest in growing good livestock. These presents were given at Christmas, but they lasted much longer than the ordinary gift, and all the time they increased in value, both sentimentally, and pecuniarily.

"I think animals," said this specialist, "make splended Christmas presents for children out in the big, open country where there is plenty of room. But parents should be able to answer "yes" to three questions before making such presents:

"First, does the child really love animals?

"Second, will the child provide the animal with shelter and care and proper feed?

"Third, will the child learn useful lessons from care of the animal?"

That seems to me to be horse sense. You can find any number of gifts suitable for children at Christmas time. The problem is to select the gift that will suit the child as nearly as possible, that will last for some time, and give the child the greatest amount of happiness. If the child loves animals and is prepared and willing to take care of them then a dog, a calf, a colt, a lamb, or a pig make emminently a suitable present. Just be sure that you don't mistake a passing fancy of the child for a real love for animals.

Seeking some facts on the capability of farm boys and girls as stockmen, I went, logically enough, to the Federal Extension Service. There I was told this:

"There are nearly 300,000 boys and 400,000 girls enrolled in 4-H Club work in this country. Of that number 135,000 boys and 76,000 girls, or more than 200,000 members, are enrolled in some kind of livestock work. Nearly 50,000 boys are demonstrating their ability to give proper care to hogs by doing pig-club work. More than 50,000 girls, and nearly that many boys love the music of the cackling hen, and belong to the poultry clubs. This demonstrates the natural love children have for livestock. You can bet your bottom dollar than an animal in the hands of a good club member is going to come mightly close to getting perfect attention and care."

I suppose the best example of the ability of the farm boys and girls to give proper care to animals is the feat of a 12-year old Iowa club boy who

fed and prepared for the show ring the grand champion steer at the International Livestock Exposition in 1928. This lad's feat of besting the World's leading stockmen at this exposition couldn't have been accomplished without the expenditure of work and the exercise of judgment that would do credit to the most experienced mature stockman.

One extension specialist remarked, "Of course animals would make ideal Christmas presents for many 4-H Club members, but they should be consulted about this matter before any purchases are made. Outside of the 4-H Clubs there are several million other boys and girls on the farms of the United States. Animals would make splendid Christmas gifts for thousands of these, but again the child should be consulted before any purchases are made. It is better for children to want animal pets, and be denied them, than to have and abuse them."

I like the last idea of the extension specialist. It surely is not right to neglect or abuse livestock. It would be better to give the child some other present in case of doubt.

What kind of an animal should be given a child for a Christmas present?

"A good animal," the Federal stockmen say-- and they say it unanimously and emphatically. "I know a girl in Montana who has a flock of 100 sheep," one man remarked. "She got this flock by gathering up and taking care of orphan lambs unable to make the trip to the range. By adding better ewes, and doing better breeding she has built up a nice flock, but with her love and knowledge of sheep, she could have done much better had she been given the opportunity to start with the strongest and best instead of the weakest.

"Give a child a good animal and the child will be proud of it, and take care of it, but if the present is a scrubby individual, the child may not be so proud nor administer such good care and treatment. Give the child something worth taking care of, and the venture will come closer to success."

One more question still lingered in my mind. Who should get the profit from rearing these gift animals?

The child.

That answer, again, is unanimous and emphatic.

One man told this story: "A farmer I know gave his boy a nice pig. The boy's pig out grew his father's because it received better treatment. Then slaughtering time came around. The father killed the boy's pig because it was better. The poor kid couldn't eat the meat of his pet, so he got precisely nothing for his work. Now men like that of course are few and far between. But the point I'm making is any Christmas gift not made in the full unselfishness of the Christmas spirit is not a gift; it is simply a gesture."

These men whom I talked with in the Bureau of Animal Industry and the Federal Extension Service simply made clear what all of us who were raised on farms know. Animals do make suitable Christmas presents for farm children who

have a genuine love for livestock, who will be assured that there is plenty of shelter and feed on the farm for the animals given, and who have the tenacity of purpose to care for their pets.

After all, children are only human. Great men and great women and men and women of lesser estate have been and always will be animal lovers. President Roosevelt and his family were famous for the profusion of pets about the White House. Likewise have been our more recent chief executives. Mark Twain's lovable pair of young rural adolescents, Tom Sawyer and Huckleberry Finn, possessed and loved their dogs.

Cats, dogs, sheep, horses, calves and chickens all are desirable Christmas presents for children when presented in the proper manner and under the proper conditions.

---ooOoo---

CLOSING ANNOUNCEMENT: You have just heard your Farm Reporter talk about giving children animals for Christmas presents. This program comes to you through the cooperation of the United States Department of Agriculture and Station__________.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Tuesday, December 10, 1929

Crops and Soils Interview No. 13: Control of Scale Insects.

ANNOUNCEMENT: Your farm reporter at Washington has been to see the specialists of the United States Department of Agriculture about the control of scale insects. That's largely a matter of spraying ----- All right, Mr. Reporter, who did you see, and what did you find out? ------------

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"Our population interested in plants is fast becoming spray-minded."

That is what Dr. A. L. Quaintance, associate chief of the Bureau of Entomology, said. And he ought to know. He is in charge of the division of deciduous-fruit insects and is our leading specialist in scale insects; including our old enemy, the San Jose scale.

Nowadays, he pointed out, it is an annual practice of farmers growing peaches, or apples, or plums, or pears, to spray every dormant season. The apple or other trees can be sprayed any time during the winter when the weather is above freezing.

He told me that in the early days of general infestation by the San Jose scale, it was notably more destructive to fruit than it has been during the last ten to twenty years. That, Dr. Quaintance said, is probably partly due to a variety of natural agencies, but perhaps more to the general program of spraying followed by commercial and amateur fruit growers alike.

There are several sprays available, including lime-sulphur, lubricating-oil, and miscible oil sprays. Lime-sulphur has been the main reliance for a good many years. But it is disagreeable to apply, especially during windy weather. The introduction, a few years ago, by the United States Department of Agriculture of lubricating-oil emulsions for spraying has been very popular. These oils are replacing lime-sulphur to a considerable extent since they are cheaper and less disagreeable to apply.

The so-called miscible oils are also effective, Dr. Quaintance said, but they are more expensive than sprays made from lubricating oils.

All these different types of sprays can be bought under various tradenames or the lime sulphur and lubricating oil emulsions can be made up at home. Bulletins have been issued by the United States Department of Agriculture and by experiment stations giving instructions as to the preparation and use of these scale sprays.

Many orchardists now follow the so-called delayed dormant plan of spraying. That is, they delay the scale treatment until the buds are breaking. Then, by adding nicotine sulphate to the scale spray, they clear the

trees of aphids or plant lice, which hatch about that time, as well as control the scale insects.

But in all scale spraying, Dr. Quaintance emphasized, very thorough work is needed. Only those insects actually hit by the spray are destroyed.

However, very satisfactory work can be done with a barrel sprayer. A barrel sprayer will be all that is needed where there are only a few trees to be treated. That is, in small orchards, and in city yards and suburban gardens. Commercial fruit growers usually use power sprays which work at a pump pressure of from two hundred to four hundred pounds.

At this time, Dr. Quaintance declared, the San Jose scale situation in most parts of this country is quite satisfactory from the orchardists' standpoint. One application of spray materials to the trees each year, together with the assistance of various natural agencies, has for many years been enough to keep this pest below injurious numbers.

However, he told me to warn you that scale insects vary considerably in abundance from year to year. Fruit growers should always be on the lookout. Any undue increase in the insects should be met by additional spray applications to reduce their numbers.

The San Jose scale is often introduced into a community or a particular orchard or nursery stock, in spite of inspections and other sanitary measures designed to prevent just that thing. After it is once introduced into a neighborhood, it is scattered by the wind, by birds, on the clothes of workmen, and in other ways.

When the insects are abundant the limbs coated by the scales show a gray color as if they had been dusted with ashes. The individual San Jose scale is circular in outline and about the size of the head of a pin. In the center is a little nipple which can be readily seen with a hand lens.

However, if you want to know more about this pest and how to combat it, write for Farmers' Bulletin No. 650 on the San Jose Scale. Farmers' Bulletin 908 on Insecticides may also prove valuable to you. Even though, generally speaking, we are fast becoming "spray-minded" as Dr. Quaintance puts it, in many instances growers should have more information on the whys and wherefores of spraying. That would contribute to more effective spraying work and would often save them money in selecting materials suited to the work, rather than those designed for use against some different sort of insect.

If a fruit grower does not himself know what insecticide he should buy for treatment of this or that insect, he can hardly expect the salesman at the supply store to know what he should use.

Your county agent or your State experiment station or the United States Department of Agriculture will supply you with information which will enable you to tell what insect is causing your trouble and what insecticide you should use, and how.

It is rarely necessary to destroy a tree that has become infested with the San Jose scale. A very severe pruning or heading back followed by spraying will gradually eliminate the pest. Such trees should be stimulated to active growth in the spring by scattering upon the soil under the spread of the limbs from three to six pounds of nitrate of soda, depending upon the size of the tree.

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ANNOUNCEMENT: Your farm reporter at Washington has just told you how to control the San Jose scale by dormant spraying as outlined to him by Dr. A. L. Quaintance, associate chief of the Bureau of Entomology. The bulletins mentioned can be had free of charge by writing this station ----- or by writing direct to the United States Department of Agriculture. Ask for Farmers' Bulletin No. 650-F on the San Jose Scale and Farmers' Bulletin No. 908 on Orchard Insecticides.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Wednesday, December 11, 1929

NOT FOR PUBLICATION

Speaking time: 10 minutes.

Poultry Interview No. 13: PROGRESS IN THE POULTRY INDUSTRY

ANNOUNCEMENT: Occasionally it's a helpful idea to review our history. A review of the past usually makes us more alert to appreciate new developments and improvements as they come along. Today YOUR FARM REPORTER is going to give us a history lesson, taking as his subject "Progress in the Poultry Industry." Mr. A. R. Lee, Department of Agriculture poultry husbandman, has, as usual, supplied the information. Now... Mr. Reporter.

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The poultry industry, like other modern institutions, has been greatly affected by scientific discoveries. Most of the progress has been crowded into the rapid-fire developments of comparatively recent years.

There was a time, you know, when poultry raising was largely confined to raising birds for fighting. Cock-fighting was a popular sport in those days. Birds had to be bred for stamina and strength. Practically no thought was given to breeding for egg production.

Going way back to prehistoric times-- to the ancient civilization of China and Egypt -- there is evidence that poultry raising was quite expensive. At lease we know that they had hatcheries in those days. And the hatchery is an institution that was not developed very extensively in this country until some 20 years ago.

But in those countries very little change occurred in poultry raising with the passing of the centuries. For several thousands years the world thought little of eggs and fried chicken. As our modern psychologists might say, people were not "poultry-conscious."

Well, even in our own country, little attention was paid to poultry farming until 30 years ago. For the most part hens were merely a side issue on general farms. We can all remember when it was general practice to let them forage for themselves and to get along on as little care as possible. Only in the present century has the hen really been recognized as a basic part of our agricultural wealth. And it's within a comparatively short period that the poultry industry has risen to become one of our greatest agricultural assets.

In recounting the important developments of this period Mr. Lee first pointed out that the growth of the poultry industry in the United States has been based on breeding for egg production. That is the main issue. Production of meat is important. But after all, it's secondary.

Hand in hand with the industry's growth, also, has been the development of commercial hatcheries. Artificial methods of incubation and brooding--first used thousands of years ago in Egypt and China, you remember began to come into general use late in the last century. There was some commercial hatching, and some local shipping of baby chicks as early as 1892. However, the hatchery business didn't develop very extensively until about 1908.

By that time incubators had been greatly improved. And even more important--science had demonstrated that baby chicks could be shipped hundreds of miles without injury.

Then, about this same time, colony brooder stoves were introduced. This arrangement made it possible to brood chicks on the range. To supply good brooding conditions along with the best outdoor conditions.

At this point science steps in with a discovery that has done about as much for the poultry industry as any other single contribution. It used to be that chicks could not be raised successfully indoors. Early experiments indicated that chicks had to get out on the ground to grow properly. But scientists found out that it was not the GROUND that chickens needed. What they really needed was sunlight and vitamins.

With this knowledge poultrymen nowadays use cod liver oil to supply vitamins, or ultra-violet rays as a substitute for sunlight. Thus it has become possible, and profitable, to raise chickens indoors at all seasons of the year.

The latest development along this line is the use of battery brooders. These brooders are built in five or six tiers--someone has called them "skyscraper" brooders. In them chicks are confined at least to broiler age, and in some cases to laying age.

Back of this whole method, you see, is the knowledge that science has given us of the vitamins and minerals necessary for indoor growth. Without this information the method would be an utter failure.

Science has also furnished us with information on feeding, on management, on refrigeration, on disease and on many other questions-- information that has been the driving power of the industry's growth.

Take feeding, for instance. Not many years ago a laying hen's ration consisted mostly of wheat and corn. The hen laid most of her eggs in the spring and summer. Now, with their new knowledge of the food elements necessary to egg production--of proteins, minerals and vitamins--poultry raisers can maintain their production pretty well throughout the year. Thus, they can take advantage of the period of highest egg prices in fall and winter.

Mr. Lee pointed out in this connection that studies of vitamin content of eggs has also added to our appreciation of the value of eggs in the human diet. This is reflected in the increased consumption of eggs in the United States.

Did you ever stop to think that a large proportion of both poultry and eggs in the United States is produced hundreds--sometimes thousands--of miles from market? And that it has been only through great progress in poultry pack-

ing, refrigeration and shipping that this market demand could be satisfied?

For example, cold storage methods have been developed that make it possible to preserve eggs produced in the spring for use during fall and winter when production is at its lowest point. The importance of cold storage is shown by the fact that some 300 million dozen eggs were so preserved last year.

Every producer, too, can store eggs for his own use by using water glass or limewater as a preservative.

Methods of freezing eggs in cans have been introduced. In this way the dealer can salvage the losses which otherwise would occur from cracked eggs and from second grades not suitable for shipping in the shell.

Some time ago, chemists worked out a method of processing eggs by dipping them in an oil bath. The bath tends to preserve the freshness and quality of the eggs. This idea is being utilized extensively by the egg trade, especially for eggs put into cold storage.

Now, getting back to production again, let's consider for a minute the extremely important matter of culling. Poultry scientists have given to the industry a method od detecting poor producing hens through external characteristics. Probably no other scientific contribution has done any more to raise the average production of both farm and commercial flocks.

After the end of the laying year it is possible to tell, by these methods, about how good a producer the hen was during the preceding year, and to estimate her probable production for the coming year.

When hens are kept in small farm flocks, the effects of disease were not always apparent and often received slight consideration. Commercial poultry farming was not s success however, until veterinarians and research workers discovered methods for controlling and preventing disease. Strict sanitation is the keystone to healthy flocks, for small as well as for large flocks.

The farther we go into it the bigger the subject of "Progress in the Poultry Industry" looms up, doesn't it? My time's about up, and yet I haven't touched breeding, which is the field of many great forward steps in poultry raising, or on new developments in marketing poultry.

Well, it can't be helped. Radio stations like railroads have to operate strictly on schedule. And my time is....up. Good-day.

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ANNOUNCEMENT: Your Farm Reporter at Washington has just been reviewing progress of our great poultry industry. Next Wednesday, you know, he'll be back to talk with poultry raisers again.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON. Thursday, December 12, 1929.

Cooperative Interview No. 13: Processing and Warehousing by Co-ops.

ANNOUNCEMENT: Farmers' cooperatives are not only growing bigger, but in a lot of cases they are taking on new work and carrying the marketing business further than ever before. We asked our farm reporter at Washington to look into this. We told him to see the specialists of the Federal Farm Board and ask about processing and warehousing by cooperatives------ Well, Mr. Reporter, what about it? ---------

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Nearly every different kind of farm stuff needs a little different kind of marketing. Taken by and large, however, there seems to be quite a trend toward processing and warehousing by growers' organizations. Many farmers' cooperative associations now face problems connected with the more complete handling and preparation of their products for market. But from what Mr. J. E. Wells, of the division of cooperative marketing of the Federal Farm Board, tells me, co-ops venturing into new lines of business will do well to see that they go in in a business-like way.

More and more stress is being laid on the processing of fruits and vegetables by groups of producers. The market problem of fresh fruits and vegetables is so closely tied up with the canning and processing end of it, that it seems natural to carry out the market program for both branches under the same management and control.

In fact, there has been quite a development of cold-pack handling of fruits for the baking trade by growers' cooperatives. Cherries and berries are being handled that way. Cherries, for example, are carried to the co-op pitting plant, washed, packed in barrels, and then hauled to a central plant for freezing and storage until needed by the trade.

Or we might mention the cooperative drying and grading and packing of grapes, and prunes, and apricots, and the canning of peaches, and pears, and plums in California. Or the development of by-products and uses for by-products in the citrus industry.

Similarly, co-ops in other lines are going more extensively in the handling and processing end of marketing. One big co-op in the Middle West bought turkey picking machines to take care of the turkeys for the farmers. By doing the picking and packing, that organization has been able to put up a uniform product, uniformly prepared which has won recognition on the market.

Some of the other poultry co-ops give surplus eggs produced in the summer a shell treatment to prevent evaporation. The treated eggs are then

sold later in the year, and so tend to even up prices.

Dairy co-ops have also been forced into new lines. The big change from cream creameries to whole milk plants has forced co-ops and private owned concerns alike to find uses for the surplus skimmilk and buttermilk produced. There has been a tremendous increase in the amount of milk powder and casein. Some co-ops have even gone into the manufacture of casein into glue and white wash in an experimental way. One organization has set up a cottage cheese department as one way of processing skim milk and selling it at a higher price.

Grain farmers' organizations are also entering new fields. Ordinarily local elevators don't do any mixing. The mixing has been done at the terminal markets. Now that farmers' organizations are going in for terminal facilities, they will naturally do the same things which have been done. They will go in for mixing more and more.

All such new ventures, however, take additional equipment or facilities. That means added responsibilities and more capital. In buying facilities, Mr. Wells points out, care should be taken to see that the directors of the association are not financially interested in the properties bought. Some of the directors voting to buy warehouses from themselves caused a lot of dissatisfaction among members of that tri-State Tobacco Growers Association which went on the rocks.

After a co-op buys physical facilities, one of the hardest problems it has is to keep those facilities in the control of the association, Mr. Wells says. He advises that the co-op protect itself against losing control by restricting the voting power and restricting the transfer of stock in the charter of the cooperative.

New ventures also make a strong reserve policy imperative. The management is often very enthusiastic over the prospects of some new scheme, and may not anticipate all the pitfalls and hazards of the new venture. That is particularly true of many cooperative associations which have ventured into new and unexplored fields, and adopted new methods of operation for which there was no background of business experience or precedent.

In such cases, he urges, it is well to include a reasonable factor of safety as an extra expense charge to be set up in a reserve for contingencies which may arise. Too lax a policy of estimating all the probable sources of contingent liabilities have caused some organizations to come to grief.

This question of capital, Mr. Wells insists, is one of the most important problems in the management of a noncapital-stock cooperative association. Capital is needed for working or operating and many other purposes. An association beginning business without capital stock or without making a provision for capital falsely assumes that it will always come out even in its business operations.

As a matter of fact, when a new corporation starts in business or starts in a new branch of its business, it usually has to pass through a period of experimentation which usually results in loss during the first years of operation.

The association must estimate the cost of running through the season accurately enough not only to come out even at the end of the year, but in order to have enough left over to create a reserve fund. Where the chief expenses are salaries, rent, and other items of that nature, Mr. Wells, estimates, that the co-op should have a reserve fund equal to at least one year's running expenses.

He points out the case of the Southern Rice Growers Association. The Southern Rice Growers' Association at one time had a reserve of $50,000. The growers didn't understand why such a big reserve was needed. They insisted that that fund be distributed to them. The Board of Directors complied with their wishes. ------- Well, that co-op failed. When the rainy day came, it didn't have enough to pay its employees. Several sued for back wages and threw the organization into bankruptcy.

In co-ops which operate on a pooling basis, large amounts of money are needed not only to pay operating expenses but for other costs such as freight, warehousing, interest and handling charges, and other things commonly classed as pool expenses. Such associations need a reserve at least equal to these pool expenses as well as at least one year's operating expenses in reserve.

New ventures, Mr. Wells warns, should not be entered into until the association has enough capital and reserve, to assure the continuation of the organization under any conditions.

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ANNOUNCEMENT: This time next week your farm reporter at Washington will report another talk with specialists of the Federal Farm Board. These cooperative programs form part of a series being presented to you by Station ---------- in cooperation with the United States Department of Agriculture.

UNITED STATES
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YOUR FARM REPORTER AT WASHINGTON Friday, December 13, 1929

NOT FOR PUBLICATION

Dairy Interview No. 13: VENTILATING THE DAIRY BARN

ANNOUNCEMENT: Good winter production from dairy cows requires tightly-constructed barns. And tightly-constructed barns are apt to get damp unless proper ventilation is provided. So, with mid-winter almost here, we asked YOUR FARM REPORTER this week to talk about dairy barn ventilation. He brings you the information direct from the Department of Agriculture in Washington. Mr. Reporter.

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Mr. M.A.R. Kelley of the division of agricultural engineering in the Bureau of Public Roads, is a specialist on ventilation problems. He explained that a good ventilation system should accomplish four things.

First, it should supply, without draft, an abundance of fresh air necessary to the health and comfort of cows.

Second, it makes possible control of barn temperature.

Third, it helps preserve the building and the feedstuffs from mold and rot due to excessive moisture, and makes spontaneous combustion less likely.

Fourth, it is a very important measure in preventing and controlling disease.

A dairy cow breathes approximately 116 cubic feet of air per hour. That's more than 200 pounds a day, which is a lot of air. It's around a fourth of her body weight, and it's about four times the amount of food she eats.

In the same 24 hours the same cow will exhale from 12 to 18 pounds of moisture, and almost that much carbon dioxide. So it's very easy to understand why the air in an airtight barn will soon become warm, moist, of bad odor, and unsuitable for breathing.

As we all know, the main function of a ventilation system is to establish a circulation. Because if fresh air is to get in, a corresponding amount of used air must get out. To maintain satisfactory conditions it is estimated that 3,600 cubic feet of fresh air must be supplied for each cow every hour. That amount of air would fill a room 36 feet long, 10 feet wide and 10 feet high.

And another important point is that this ventilation must be a continuous process when the animals are in the barn. The degree of contamination of the air depends almost entirely on the rate that this contamination is produced and on the rate that it is removed. In other words, it depends on proper circulation.

For this reason a large amount of air space per head does not take the place of ventilation. Mr. Kelley made it a point to emphasize that the purity of air in the stable is not dependent on a large volume of air space.

Rather, the factor which determines the amount of air space needed by each cow is the amount the cow can heat and keep at a comfortable temperature. The necessary volume, of course, varies with climatic conditions. In cold climates the amount may be 600 cubic feet. In the South it is as much as 1,000 cubic feet.

This brings us to the question of insulation. The heat from a cow's body, as you know, is utilized both for keeping the barn warm, and for keeping the air stirring. Especially in the colder regions insulation is necessary in order to save this heat.

Insulation thus has a very important bearing on the success of a ventilating system. No matter how well ventilated your barn is, moisture will condense on the walls if they aren't properly insulated. In fact, Mr. Kelley said, that is what causes damp walls in a majority of cases. Ventilation helps. But the barn must also be insulated in proportion to the outdoor temperatures in any certain section of the country.

Of course, on the other hand, a good warm wall will get damp if the barn isn't well ventilated. The point is, though, that the efficiency of a ventilating system can't always be judged by the moisture on walls and ceiling. Your system may not be operating properly. Or the trouble may be in insufficient insulation, or in faulty construction.

Now, getting back to the heat produced by cows. Mr. Kelley declared that this is the principal factor in securing ventilation. In the first place, you know, to get air to circulate properly there must be a difference in temperature, thus setting up fresh air and used air currents.

The capacity of a ventilating system is determined by the average amount of heat generated, the outside temperature, and the size of the intakes and outtakes. Ordinarily the total area of the intakes is the same as that of the out-takes. They are smaller but there are more of them.

As to size of out-takes it necessarily varies with the climate and with height of flue. The range is from 29 to 36 inches per head.

In distributing in-takes the point is to place them around so as to insure a good distribution of air in all parts of the stable.

A mistake sometimes made, Mr. Kelley said, is not extending the ventilator to a sufficient height. The level of the ventilator top should be well above the ridge, or the highest part of the roof.

I wish I had time to go into detail about the disign and operation of ventilator systems. But I haven't. Anyway, you can get much more satisfactory information from a bulletin that Mr. Kelley has written. It is Farmers' Bulletin No. 1393, entitled "Principles of Dairy Barn Ventilation." If you'll drop me a note I'll be glad to get it for you.

So far we've discussed only the one factor that must be considered in dealing with ventilating systems--the difference in temperature of air inside and outside. There are three other important ones: the amount of moisture in the air, the wind, and the construction of the barn. All of them are dealt with in Mr. Kelley's bulletin.

Now, just one other point, Mr. Kelley explained that the most desirable temperature of air for breathing is approximately 50 degrees Fahrenheit. In the more temperate parts of the country it isn't hard to maintain this temperature. In the extreme north it isn't so easy. And a temperature between 45 and 50 degrees is generally considered satisfactory there.

In determining conditions prevailing at any time within a barn we have to depend mostly upon observation and the sense of smell. One or more thermometers--the number depending upon size of the stable--can be placed at various points at a height of about five feet, and where incoming air will not blow directly upon them. Read the instruments at regular intervals--say two or three times a day. Or when marked changes occur in wind velocity or direction, or in outside temperature. Then the tendency of stable temperature to rise and fall can be checked up, and adjustments made accordingly.

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ANNOUNCEMENT: YOUR FARM REPORTER mentioned one bulletin today. Did you get the number. It's Farmers' Bulletin No. 1393, "Principles of Dairy Barn Ventilation." If you want a copy write him at Station______ or at the Department of Agriculture in Washington, D. C.

UNITED STATES
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YOUR FARM REPORTER AT WASHINGTON Monday, December 16, 1929.

NOT FOR PUBLICATION

Speaking Time: 9 Minutes. All Regions.

Livestock Interview 14: LIVESTOCK MINERAL REQUIREMENTS

OPENING ANNOUNCEMENT: At this time your Farm Reporter talks about minerals in the livestock ration. He will touch on the new knowledge of the place in the livestock ration of vitamins, calcium, phosphorus, iodine, and just common salt. Have pencil and paper ready. You may want to take notes, as your Reporter names many of the feeds and minerals rich, or poor, in these mineral elements. All right, Mr. Reporter, start your story.

--ooOoo--

Well, folks, I can start this story all right. It goes back to my boyhood days when I helped raise, feed and market livestock. In those days we talked about feeding a balanced ration. We meant keeping proper proportions between proteins, carbohydrates, and fats in the ration.

Since that time a great deal of information has come to light in regard to feeding mineral elements to livestock. We hear a lot today about feeding calcium, phosphorus, iodine, and other mineral elements. In addition, scientists have found that vitamins in the feedstuffs are necessary for economic livestock production, and they list vitamins A, B, C, D, and I don't know how many more. Newspapers, farm journals, and household magazines carry stories about the addition of mineral elements to the ration, and the importance of vitamins, cod-liver oil, and sunshine.

It struck me that you might be interested in learning what scientists in the United States Department of Agriculture have to say on this subject of feeding mineral elements to livestock.

Well, to make a long story short, I went over and had a talk with Dr. Paul Howe, in charge of nutrition investigations for the United States Bureau of Animal Industry. He gave me the plain facts about this matter, and here are some of his remarks:

"Every animal needs a balanced ration, including minerals. If feeds supply these minerals then it is not necessary to provide them in any other form. The pointers for stockmen from mineral feeding experiments can be briefly expressed about like this: Feed minerals when they are needed. Don't waste money for them unless they are needed. Study your feeds, balance the ration as best you can, observe the results, and you'll have a pretty good idea yourself as to whether or not your animals need additional minerals and finally feed the minerals along with but separate from the other feeds."

I asked Dr. Howe if rations generally used over the country are, as a rule, deficient in minerals.

"No, indeed," was his positive reply. "Feeding minerals to livestock is a local proposition. The feeds in one section may be deficient in some mineral while the same feeds in another part of the country may contain plenty of the same mineral. Soil, climate, moisture and many other factors govern the mineral supply in many of our feeds.

"Going a step further we find that the feeding of mineral elements, in addition to being a local matter, is often a problem of managing individual animals. A heavy-milking cow needs more calcium than one in ordinary milk. The same thing is true of a heavy-laying hen."

At this point I asked Dr. Howe to name the mineral elements most likely to be deficient in the average ration. He gave them in the following order --- 1. calcium --- 2. phosphorus --- 3. iodine. Of course it goes without saying that common salt is perhaps one of the most important of all the minerals, and should always be supplied to animals in sufficient quantities.

Next I asked Dr. Howe to tell you radio listeners WHY livestock need these mineral elements. He put his answer in this way --

"Every animal needs a balanced ration. If some part or some element of the ration is missing, the animal will go on producing or growing for a time and then will probably come down with some sickness or trouble. To illustrate: It takes oil, gas and water to make an automobile motor function smoothly. Take away the water and the motor will continue for a short time and then stop. It takes certain elements to balance a ration. Take away one of these elements and the animal will not die, but go right along for a time, and then ----- perhaps show a decline in weight, or production, or some other fault.

"Dr. Howe"--- I cut in, "just what happens to animals failing to get these minerals?"

"Well," he said, "I see you want specific information for your radio listeners. Here you are.

"Young animals failing to get enough calcium, either suffer from rickets, or fail to grow properly. Older animals may drop in weight or production if they don't get enough calcium and females may show a lowered reproductive capacity. These effects are greater when the animals do not get sunlight or vitamin D.

"Animals failing to receive enough phosphorus, develop poorly, fail to gain weight, and have soft bones. Here again sunlight and vitamin D may play a part in correcting deficiencies at least temporarily.

"Animals failing to receive enough iodine in their ration have just one big trouble ----- GOITER."

"WHAT feeds supply these various elements?" was my final query.

Dr. Howe picked up a sheet of paper. "Now look here," he said, "I'll give you this list of feeds that are rich, moderately rich, or deficient in the two chief mineral elements. But you've got to apologize to the radio audience for presenting such a long-winded, uninteresting sort of thing. Don't let them say that I inflicted it on them."

I promised Dr. Howe, and I hereby take all the blame for giving you this somewhat lengthy list of feeds and their relative richness in minerals. I'm giving it because I know you people want the facts. If you want to get it and study it over at your leisure, write to me in care of this station for a copy. The list is taken from a bulletin of the Minnesota Agricultural Experiment Station. Here we go.

(NOTE TO ANNOUNCER: PLEASE READ SLOWLY)

Feeds rich in calcium:

Alfalfa-----red clover-----tankage-----milk products-----and fish meal.

Feeds moderately rich in calcium:

Dried beet pulp-----corn silage-----and corn fodder.

Feeds poor in calcium:

Cereal grains like corn, wheat, oats, barley and rye; and cereal grain by-products. Roots, legume seeds, grass, hay --- such as timothy, and nearly all wild and tame grass hays, and cereal straws.

Feeds with calcium on the border line --- Sometimes they're moderately rich and again, poor. That depends on the soil of the section producing them. Blue-grass in Kentucky is good. In some other section, it may not be quite so good.

Bluegrass-----millet-----linseed meal-----and cottonseed meal.

Next the feeds rich in phosphorus:

Wheat bran-----wheat middlings-----wheat germ-----red dog flour-----

legume seeds, like soybeans and cow peas-----cottonseed meal-----linseed

meal-----milk products-----tankage-----fish meal-----and rice polish.

Feeds with phosphorus in moderate amounts:

Cereal grains, like corn, wheat, oats, barley and rye ----- alfalfa hay-----corn stover-----corn silage-----sweet clover hay-----vetch hay----- and rape hay.

Now, the feeds poor in phosphorus:

Hominy-----polished rice-----beet pulp-----corn cobs-----red clover hay-----timothy hay-----millet hay-----cottonseed hulls-----oat hulls----- and cereal straws.

It is thought that a properly balanced ration will satisfy an animal's mineral requirements in most cases, but there are of course some exceptions, and for such cases the following mineral list may be useful.

Materials rich in calcium:

Lime stone-----bone meal-----spent bone black-----bone ash and oyster shells (for poultry).

Materials rich in calcium and phosphorus:

Bone meal-----spent bone black and bone ash.

In concluding the interview, I asked Dr. Howe how the average stockman was to get specific information on minerals in the ration. He said, "I told you in the beginning that this is a local matter. Tell him to see his County Agent, or to write his State Agricultural College."

--ooOoo--

CLOSING ANNOUNCEMENT: You have just heard your Farm Reporter tell about mineral requirements in the feeding ration. If you want copies of the list of feedstuffs showing mineral content of each, direct your request to this station. This talk came to you through the cooperation of the United States Department of Agriculture and Station ___________.

UNITED STATES
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3Yo YOUR FARM REPORTER AT WASHINGTON. Tuesday, December 17, 1939.

Crops and Soils Interview No. 14: Home Mixing of Fertilizers.

ANNOUNCEMENT: We are now ready for another report from your Farm Reporter at Washington. We asked him to inquire about home mixing of fertilizers. Some say mix fertilizers at home. Others say buy ready-mixed fertilizers ---- Well, Mr. Reporter, what do the specialists of the United States Department of Agriculture say about it? --------

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Home mixing of fertilizers is a perfectly satisfactory way of using fertilizer materials. Ordinarily, so is buying fertilizers ready-mixed very satisfactory. The farmer who mixes his own is not going to buy poor materials to mix. And most fertilizer manufacturers put good materials into their mixed goods.

By way of introduction, that is the way Dr. C. C. Fletcher, of the Fertilizer Investigations of the United States Department of Agriculture, stated the situation.

"Then, why mix at home at all?" I asked him.

"Well, the principal reason for mixing at home," he explained, "is the saving in cost. When there is no saving, there is no real incentive for the farmer doing the extra work. For home mixing <u>is</u> extra work.

"It will usually be found, however," he went on, "if the farmer is offered a complete fertilizer carrying so many pounds of nitrogen, phosphoric acid and potash and will get the same amount of those materials and mix them himself, he will make a substantial saving of money.

"Of course, he should make a saving by mixing at home, because it will mean extra work to home mix his fertilizers. To effect this saving he must do that work when he has plenty of time to do it; in many cases, when he would otherwise be idle."

Aside from this question of saving money, Dr. Fletcher pointed out that there will always be a few people who will want to mix their own fertilizer for the educational value of it. That is, they want to mix their own so as to find out just what the different fertilizer materials are like.

True, some fertilizer companies use open formulas. The exact nature of the materials is printed on the bags or on the tags, so the farmer using the fertilizer can know just what is in the goods. Many fertilizer companies, however, confine the information given to the simple statement of the proportions of nitrogen, phosphoric acid, and potash without

showing the materials used to supply these chemical elements.

Sometimes, two fertilizers, containing the same total proportions of the main chemical ingredients, may be made up of different materials which supply the chief plant foods in somewhat different form and so have a little different effect on plant growth.

For this reason, farmers who are trying out the results of scientific fertilizer experiments on their own farms must often know the exact nature of the materials used in the mixture. Because of the failure of many companies to supply such information with their goods, many farmers who are inclined to conduct some experiments of their own, prefer to mix their own materials to make sure that they know the exact form in which plant-food materials are present.

The mixing of the materials is comparatively simple. Any tight floor or wagon box may be used, and whatever tools you have on hand. Spread the materials in layers, spreading the most bulky first. Then shovel them together thoroughly. Pass the mixture through a screen and break up any lumps with a tamper or the back of a shovel.

Dr. Fletcher says he uses a very large long-handled mortar hoe for mixing, but there is no need to buy such a hoe if you don't have one. Use something else. If you need to mix large amounts, it might pay to buy a small rotary mixer such as is sold for concrete mixing on the farm. Mix until the material is fine and uniform. Then bag it and store it in a dry place until you need to use it. ------

Another thing. One of the new tendencies in the use of fertilizers is the use of concentrated materials. Such materials, Dr. Fletcher said, are no better than the standard fertilizer materials. Owing to the decreased cost of freight, however, the concentrated fertilizer can often be bought for less per unit of nitrogen, phosphoric acid, and potash.

The concentrated fertilizer may be hard to distribute with the machinery most farmers now have. But he suggested that you can get around that by mixing concentrated fertilizers with some filler at home before putting the fertilizer on the land.

Anything can be used for filler which has fertilizer value. You might use dried peat or cotton seed meal; or you might use some inert substance such as sand. What is best to use will depend largely on what is available in your particular community.

The home mixing of concentrated fertilizer with some filler readily available in your locality to dilute it, as it were, will often enable you to use concentrated fertilizer in the same way as standard fertilizer without having to buy new machinery or without having to take special care in distributing the concentrated fertilizer.

A special case, mentioned by Dr. Fletcher is that of the farmer who has plenty of poultry manure and wants to use it as a substitute for

commercial fertilizer. Poultry manure may be a fine base for fertilizer when it is dried and pulverized. The dried and pulverized poultry manure may be mixed with fertilizer chemicals and the resulting mixture be equal to the fertilizer mixtures often selling for much more money.

But in all this mixing business, Dr. Fletcher warns that it is best to get all the information you can on this matter. Home mixing of fertilizers is a matter that calls for real intelligent study on the part of the farmer. You can probably get information on home mixing from your county agent or from your state experiment station. The United States Department of Agriculture also has mimeographed publications on this subject, which may be had for the asking. Ask for Home-Mixing of Fertilizers. And address your request to the Bureau of Chemistry and Soils of the United States Department of Agriculture.

ANNOUNCEMENT: Further information on the subject of home mixing of fertilizers may be had from the Bureau of Chemistry and Soils of the United States Department of Agriculture. Tomorrow your farm reporter at Washington will present another of these reports through this Station____ working in cooperation with the United States Department of Agriculture.

UNITED STATES
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YOUR FARM REPORTER AT WASHINGTON. Tuesday, December 17, 1929.

Crops and Soils Interview No. 1[illegible]: Home Mixing of Fertilizers.

ANNOUNCEMENT: We are now ready for another report from your Farm Reporter at Washington. We asked him to inquire about home mixing of fertilizers. Some say mix fertilizers at home. Others say buy ready-mixed fertilizers ---- Well, Mr. Reporter, what do the specialists of the United States Department of Agriculture say about it? ---------

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Home mixing of fertilizers is a perfectly satisfactory way of using fertilizer materials. Ordinarily, so is buying fertilizers ready-mixed very satisfactory. The farmer who mixes his own is not going to buy poor materials to mix. And most fertilizer manufacturers put good materials into their mixed goods.

By way of introduction, that is the way Dr. C. C. Fletcher, of the Fertilizer Investigations of the United States Department of Agriculture, stated the situation.

"Then, why mix at home at all?" I asked him.

"Well, the principal reason for mixing at home," he explained, "is the saving in cost. When there is no saving, there is no real incentive for the farmer doing the extra work. For home mixing is extra work.

"It will usually be found, however," he went on, "if the farmer is offered a complete fertilizer carrying so many pounds of nitrogen, phosphoric acid and potash and will get the same amount of those materials and mix them himself, he will make a substantial saving of money.

"Of course, he should make a saving by mixing at home, because it will mean extra work to home mix his fertilizers. To effect this saving he must do that work when he has plenty of time to do it; in many cases, when he would otherwise be idle."

Aside from this question of saving money, Dr. Fletcher pointed out that there will always be a few people who will want to mix their own fertilizer for the educational value of it. That is, they want to mix their own so as to find out just what the different fertilizer materials are like.

True, some fertilizer companies use open formulas. The exact nature of the materials is printed on the bags or on the tags, so the farmer using the fertilizer can know just what is in the goods. Many fertilizer companies, however, confine the information given to the simple statement of the proportions of nitrogen, phosphoric acid, and potash without

showing the materials used to supply these chemical elements.

Sometimes, two fertilizers, containing the same total proportions of the main chemical ingredients, may be made up of different materials which supply the chief plant foods in somewhat different form and so have a little different effect on plant growth.

For this reason, farmers who are trying out the results of scientific fertilizer experiments on their own farms must often know the exact nature of the materials used in the mixture. Because of the failure of many companies to supply such information with their goods, many farmers who are inclined to conduct some experiments of their own, prefer to mix their own materials to make sure that they know the exact form in which plant-food materials are present.

The mixing of the materials is comparatively simple. Any tight floor or wagon box may be used, and whatever tools you have on hand. Spread the materials in layers, spreading the most bulky first. Then shovel them together thoroughly. Pass the mixture through a screen and break up any lumps with a tamper or the back of a shovel.

Dr. Fletcher says he uses a very large long-handled mortar hoe for mixing, but there is no need to buy such a hoe if you don't have one. Use something else. If you need to mix large amounts, it might pay to buy a small rotary mixer such as is sold for concrete mixing on the farm. Mix until the material is fine and uniform. Then bag it and store it in a dry place until you need to use it. ------

Another thing. One of the new tendencies in the use of fertilizers is the use of concentrated materials. Such materials, Dr. Fletcher said, are no better than the standard fertilizer materials. Owing to the decreased cost of freight, however, the concentrated fertilizer can often be bought for less per unit of nitrogen, phosphoric acid, and potash.

The concentrated fertilizer may be hard to distribute with the machinery most farmers now have. But he suggested that you can get around that by mixing concentrated fertilizers with some filler at home before putting the fertilizer on the land.

Anything can be used for filler which has fertilizer value. You might use dried peat or cotton seed meal; or you might use some inert substance such as sand. What is best to use will depend largely on what is available in your particular community.

The home mixing of concentrated fertilizer with some filler readily available in your locality to dilute it, as it were, will often enable you to use concentrated fertilizer in the same way as standard fertilizer without having to buy new machinery or without having to take special care in distributing the concentrated fertilizer.

A special case, mentioned by Dr. Fletcher is that of the farmer who has plenty of poultry manure and wants to use it as a substitute for

commercial fertilizer. Poultry manure may be a fine base for fertilizer when it is dried and pulverized. The dried and pulverized poultry manure may be mixed with fertilizer chemicals and the resulting mixture be equal to the fertilizer mixtures often selling for much more money.

But in all this mixing business, Dr. Fletcher warns that it is best to get all the information you can on this matter. Home mixing of fertilizers is a matter that calls for real intelligent study on the part of the farmer. You can probably get information on home mixing from your county agent or from your state experiment station. The United States Department of Agriculture also has mimeographed publications on this subject, which may be had for the asking. Ask for Home-Mixing of Fertilizers. And address your request to the Bureau of Chemistry and Soils of the United States Department of Agriculture.

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UNITED STATES DEPARTMENT OF AGRICULTURE
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YOUR FARM REPORTER AT WASHINGTON. Thursday, December 19, 1929

Cooperative Interview No. 14: Canning by Cooperatives.

ANNOUNCEMENT: Your farm reporter at Washington has been looking up some information on canning by farmers' cooperative organizations. We have had so many inquiries about canning, we asked him to see some of the specialists of the Cooperative division of the Federal Farm Board about it.—— Here he is now —— ready to make his report, and tell us what is needed to run a co-op cannery successfully--------

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As luck would have it, I caught Mr. John Marshall, Jr., just back from the Northwest. He is a specialist of the division of cooperative marketing who has been out there making a study of co-op canneries for the Federal Farm Board.

Some of our most successful fruit and vegetable canneries are in the Northwest. Attempts have been made to get them to form one central selling agency. Why? Well, as Mr. Marshall explained it, selling through one central agency would eliminate one of the greatest troubles of small western co-op canneries——the difficulty of having to sell through brokers in the West. This makes a double brokerage charge; furthermore it means that over half of the canned goods are sold under packers' labels. The consequence of that is that the small co-ops have little chance to build up a name for themselves and to establish a demand for their particular product.

As Mr. Marshall was telling me how the co-op canneries in the Northwest had increased the number of their members and the amount of their business, I asked him what it takes to make a successful co-op cannery,—— in other parts of the country as well as in the Northwest.

Of course, he pointed out that there should be enough fruits and vegetables raised around about. Not only that, but there should be a variety of different fruits and vegetables coming on at different times, so as to stretch out the canning season as long as possible. It takes a lot of money to buy canning machinery; and to spread out the overhead and run the plant economically you need a supply of fruits and vegetables that will keep the plant going through a long season.

Mr. Marshall also said that it is more economical for the small to medium sized cannery to be located within easy trucking distance of a commercial refrigeration plant. If that is done, some of the fruit can be put up by the cold-pack method and held in storage until needed. The cold-pack is another way of increasing the volume of business for the cannery.

Some of the larger growers' co-op canning associations in the Northwest market fresh fruits, cold-pack fruits, and canned fruit. The fresh fruit brings the best returns to the members, of course. Cold-Pack stuff returns

less than fresh fruit, but usually more than canned goods.

When commercial refrigeration facilities are available, the canning co-op can go in for cold-packing fruit at comparatively little expense. In cold packing the fruit is merely passed through a combined washer and grader and from that direct to the fifty gallon barrels which is the most common container. These barrels are put in cold storage and frozen solid. That can be done more quickly and with less labor than canning. Cold pack fruit is bought by the big bakeries, preservers and other such users of fruit

Most canneries ship fruit fresh early in the season when prices are best and can the later crop. They are able to estimate how much they will handle in the different ways, because much of canned output is sold on future orders before the fresh fruit is ready for market. Ordinarily, the canneries sell about half of the expected pack on future orders before the fresh fruit is ready for market. Ordinarily, the canneries sell about half of the expected pack on future orders. Then when the season starts, they sell the fruit fresh, as long as they are sure they will have enough left to fill canning orders and until the price for fresh fruit gets down where it will pay better to can.

In starting a new cannery, it is very important, Mr. Marshall said, to get in contact with the probable markets for the canned and cold packed products and to make some sales before the pack is completed. Many co-op canneries have failed because they waited until the first years' pack was completed before developing a market for the finished product.

The cannery should be located where plenty of labor is available in the packing season. And, naturally, a cannery must have plenty of water and cheap facilities for taking care of waste products, and, of course, be located near the railroad so as to avoid any unnecessary trucking charges.

But co-op canneries may be well located, and still fail if they are not well financed. Better begin with a small plant and let it grow as the business grows.

"How much does it take, to start a co-op cannery?" I asked.

"That of course depends on the locality and the length of the growing season," explained Mr. Marshall. "A rule of thumb is $2500 capital for each 1,000 cans of fruit packed per day."

As for working capital, there should be enough of it. The general practice is to make advances to members to cover the harvesting costs of the preceding two weeks. That generally amounts to about thirty to forty per cent of the total return to the members. After that advance to cover picking and hauling, the member ordinarily gets no other advance until the closing of the pool and the final distribution. But the advances to members and wages of employees demand a considerable sum.

This matter of working capital is one of the big problems of a cooperative cannery, Mr. Marshall insisted. As a rule, farmers want all the money back that their product brings in. The well-managed association, however, should have a substantial reserve, so as to have enough working capital

in emergencies such as bad crop and market years.

It is the general practice of cooperative canneries in the Northwest to lease their warehouses and have them licensed under the Federal Warehouse Act, so they can borrow from the Federal Intermediate Credit bank on the warehouse receipts, up to 75 per cent of the market value of the canned goods.

The successful co-op cannery tries to pay at least as much as the private packers pay. In addition, the co-op performs every service it can perform for its members.

Some co-ops act as an employment bureau and supply their members with pickers on order. Some associations handle supplies for their members, buying for them all sorts of things from fertilizers to radio sets. Practically all keep their members informed on production practices, the best varieties to grow, when to spray, and like information.

One of the most important things the successful co-op cannery does is to make a practice of grading the products it receives and paying according to the grade of the product.

In that way, one co-op cannery has increased the quality of the berries produced by its members until now 95 per cent of the berries delivered by the members are No. 1 berries, which bring the highest prices.

To perform such services, and to manage a successful cannery, the association needs a superintendent who not only has the technical information on canning but who is a good director of workmen and who has a lot of enthusiasm. It takes a good salary to get such a man.

However, with a cannery well located, well financed, and well managed, Mr. Marshall declared, such an association is well on its toward success.

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ANNOUNCEMENT: Your farm reporter at Washington has just reported some of the things needed for a successful co-operative cannery, as outlined to him by Mr. John Marshall, Jr., of the division of Cooperative marketing of the Federal Farm Board. This is one of a series of talks given each Thursday by Station________ in cooperation with the Federal Farm Board and the United States Department of Agriculture.

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Wednesday, December 18, 1929

NOT FOR PUBLICATION

Speaking Time: 10 Minutes

Poultry Interview No. 14: MODERN EQUIPMENT FOR THE POULTRY HOUSE

ANNOUNCEMENT: Here's YOUR FARM REPORTER, now. For today's poultry program he's going to talk about modern equipment for the poultry house. Mr. A. R. Lee, Department of Agriculture poultry husbandman, has given him some tips that may interest you. Let's hear them.

*****

All of you are more or less familiar with the whys and wherefores of good poultry house equipment. So Mr. Lee suggested that we make this a sort of checking-up program. How much of what you know about the best ways of equipping a poultry house are you actually putting into practice? As I go over the items pointed out by Mr. Lee you can check up and see.

First, though, we might go back to the beginning and review the reasons why up-to-date equipment is essential to getting highest profits out of raising poultry.

For one thing, it's practical for the same reason that piping water into the kitchen is practical. It saves labor. And it is convenient. GOOD equipment is easy to clean. It makes proper sanitation a comparatively easy matter. And that's another reason why it's essential.

Then, a third purpose in furnishing the poultry house is to increase feed consumption of laying hens and pullets. As you know much better than I do, the big object in feeding layers is to get them to eat as much as possible, especially as much mash as possible. And they'll eat more if feed hoppers are conveniently placed and kept clean.

Now for our check-up. What comes first? Roosts, I suppose. But practically every poultry house has roosts, so we can check them off right away. Let's take dropping boards first. Not all poultry raisers use them. Yet they are very necessary fixtures in the poultry house, too. Necessary, that is, if the house is to be kept clean without an undue amount of labor.

The modern poultryman has also found it advisable to nail 2-inch mesh wire on the under part of the roosts. That prevents hens from getting on to the dropping boards and scratching there.

Next on my list of poultry-house equipment, I guess should come nests--CLEAN nests. As you know, the standard requirements are that one nest be provided for every five hens and that the nest be at least 14 inches square. But the important thing is to make the nest easy to clean. The litter has to be changed frequently. Using half-inch hardware cloth for the bottom of nests aids cleanliness.

And many poultrymen save labor by building in a tier against the wall, using the wall as a back for the nests. Then, the nests can be pulled away from the wall and litter dumped out the open end.

As the third item, let's take the mash hopper. Mr. Lee declared that keeping dry mash before hens all of the time is one of the most practical ways of increasing egg production. The requirements of a good mash hopper? Well, it should prevent waste, keep the mash clean, be easy to clean, and to fill, and provide the laying hens with a constant supply of mash. As to size, one running foot of length to every 8 hens is about right. Then most of the hens can eat at one time. Of course the hopper should be arranged so that hens cannot walk in it, thus getting the feed dirty and wasting it.

In the past, large wall mash hoppers have been popular. But nowadays they're being replaced on many farms with open-reel box hoppers. These hoppers are made like an open box, about 5 inches deep and 10 inches wide. And they have a revolving rod on top of the hopper to keep hens from walking or roosting in the mash.

If you're interested, by the way, you'll find plans of the open-reel box hopper in Farmers' Bulletin 1554, entitled "Poultry Houses and Fixtures." And thi bulletin also gives plans for nests and much of the other equipment that I'm mentioning today. Your State College probably has Mash hopper plans, too, that are being used extensively in your own State.

Getting back to the subject, we might take a moment for the open-trough feeder, which is usually used for moist feeds such as moist mash, condensed buttermilk green feed and scratch feed. Separate hoppers or sections of hoppers have to be provided for oyster shell and limestone grit. And a space for charcoal may also be supplied.

This brings us to the question of watering arrangements. The essentials here are that the vessels be easy to clean, that they be located where they will KEEP clean, and that they be big enough. A point to emphasize here is that merely emptying the pans and adding fresh water doesn't keep them clean. They have to be scrubbed out.

The necessity of clean drinking water in preventing disease from spreading rapidly through the flock is so well known that we won't dwell on it. We might extend our checking-up, though, to the KINDS of water containers.

Galvanized pails or large pans make desirable water vessels for laying hens. Set them up about 2 feet above the floor of the pen on either a slat or wire platform--high enough so that floor litter cannot be scratched into them. Many poultrymen also put a wire or wood frame, or a metal cone, over open water pans to prevent hens from walking in the water.

Naturally one of the main things to look out for is to keep the space around water containers dry. Damp litter in the poultry house is very undesirable.

As containers of milk, galvanized pans aren't so good. They are affected by the acid in the milk. So wooden troughs or earthenware fountains for milk, of course, must be kept strictly clean and given frequent scaldings..

To keep water from freezing in cold weather either electric or oil heaters, placed under the water vessels, are satisfactory. Great care must be taken with

oil heaters, though, to avoid danger of fire.

In many large poultry houses automatic watering devices are not being used, especially in sections where winters aren't very severe. The automatic system is particularly useful on range, where the flow of water can be regulated by a float and where some simple providion can be made to take care of overflow and drainage.

One thing that every farm flock should have is a broody coop, where hens can be placed as soon as they go broody when they are not wanted for setting. Plans are given for broody coops in Farmers' Bulletin 1554. The coops can be made of wire and slats and placed either on the inside wall of the house or at one end of the dropping boards.

Then, of course every poultry house should be equipped with a catching hook, for catching sick hens or for picking out birds for marketing and eating. This saves a lot of time. A hook generally used is made of heavy wire, about 4 feet long, bent to form a handle at one end and a hook at the other.

One more suggestion---about feeding alfalfa hay, which is an excellent addition to the poultry ration. Alfalfa hay is fed to best advantage in a cylindrical frame, made of poultry netting, about one foot in diameter and 3 feet high. The frame may either be set on the floor or fastened to the side wall.

There are numerous other pieces of equipment that <u>might</u> be used in the poultry house---and used profitably. But practically all those I've mentioned today can be made at home. Home-made equipment, if made carefully, will meet all the requirements. And, it is inexpensive.

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ANNOUNCEMENT: That was YOUR FARM REPORTER, reviewing the essentials of equipment for the modern poultry house. If you want to continue the checking-up process he started today write for that bulletin. It's Farmers' Bulletin No. 1554, "Poultry Houses and Fixtures." Write YOUR FARM REPORTER At Station_____ or at the Department of Agriculture in Washington.

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Friday, December 20, 1929

NOT FOR PUBLICATION

Speaking Time: 10 minutes.

Dairy Interview No. 14: STERILIZING DAIRY UTENSILS

ANNOUNCEMENT: The unsterilized dairy utensil has a bad reputation. Market milk men say that it is one of the biggest sources of sour milk and low-grade dairy products. YOUR FARM REPORTER has been looking into the matter of sterilizing utensils. And now he's ready to report. He brings his report to you direct from the Department of Agriculture in Washington.

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If we could just trust our own eyes we'd often think about things differently. But unfortunately the old saying isn't puncture-proof----Seeing is now always believing.

A magician demonstrated this to my satisfaction not long ago, at a theatre. He pulled six rabbits out of my coat collar while I sat watching him. And he might be taking gold watches out of my ears yet if he hadn't grown tired.

You don't have to go to a show, though, to get a convincing demonstration that you can't believe your eyes. Take two milk pails. Wash and sterilize one. Merely wash the second. Now, so far as anyone can see, there's absolutely no difference in them. Both appear clean, spick and span. And yet there may be the greatest difference in the world. The unsterilized pail may harbor millions of germs ----germs that cause souring, off-flavors and sometimes sickness.

I know a few people who seem to think sterilizing is something new. But a little remembering tells us that it isn't. Even back in grandmother's time the dairyman who was noted for his good butter was the dairyman who kept his utensils spotless and shining, and who scalded them frequently and thoroughly. Nowadays we have new methods and better equipment. But the principle is the same.

I imagine a good many of you still use the scalding, or hot water, method. It's very effective when applied carefully. And many of you use steam. Some of you, perhaps, are now sterilizing with chemicals. The chemical method is new and interesting, so let's talk about it first.

Mr. C. S. Leete, one of the Department of Agriculture's market milk men, tells me that the chemical method is proving practical for small dairy farms as well as in larger dairies. The usual sterilizing agent is chlorine.

Mr. Leete declared that the most important point in sterilizing with chlorine is to clean the utensils thoroughly first. Free chlorine will

attack organic matter before it attacks bacteria. So if the milk can, or other apparatus, is not perfectly clean chlorine will waste its power on this organic matter. By the time it gets around to the bacteria much of its effectiveness will be gone.

The chlorine solution is ordinarily used at a strength of 1 part available chlorine to 10,000 parts water. The Department of Agriculture believes, though, that for ordinary use it's better to have a margin of safety. So Mr. Leete recommends making the solution stronger---one part to 5,000.

Department chemists dissolve a 12-ounce can of chloride of lime in one gallon of water and filter it into a glass bottle or jar. This is a stock solution. It's kept in a cool dark place. Then, when they're ready to sterilize utensils, they make a sterilizing solution simply by adding one ounce of the stock solution to every gallon of water.

Milking machines were the first dairy utensils to be sterilized in this way. And now milk plants use the chemical method extensively in bottle washers.

Now, let's return for a minute to the tried-and-true methods of sterilizing by heat. Experience shows us one common trouble.

Say you're sterilizing with hot water. Be sure that the water is hot enough so that the utensil cannot be held in the bare hand. And be sure that it stays that hot throughout the sterilizing process.

The same applies to steam. It's very important that the utensil be so hot that it dries off immediately. Moisture, you know, is an excellent place for germs to grow.

Mr. Leete told me that, for effective sterilization, hot water must be at least 180 degrees. And utensils should be placed in steam, at a temperature of at least 200 degrees, for five minutes.

There are various good methods of applying steam. The kind and amount of equipment depends upon the size of the dairy. Small dairies many times need only very simple apparatus. Larger dairies usually find it economical to install more elaborate equipment.

I haven't time to go into the details of sterilizing equipment. But I CAN tell you where to get that information if you want it. Farmers' Bulletin No. 1473 on "Washing and Sterilizing Farm Milk Utensils," is a good place to get it. And there's another bulletin on "Cleaning Milking Machines" that might help. It's Farmers' Bulletin No. 1315.

Besides bulletins, too, the department has blue prints for the construction of a simple steam boiler. And they're free, also.

Now, in the next two minutes let's do a little more remembering. Let's summarize the whole clean milk problem.

As you know, the four essential factors are clean cows, sterile utensils, prompt cooling, and use of a small-top pail. Of the four--the second one--sterile utensils--probably has most to do with the bacterial count.

It's already been pointed out that unsterilized utensils are one of the commonest sources of contamination in milk. This applies to the pail, the cooler, the can, the various apparatus at the milk plant, and to the final containers--cans and bottles. Mr. Leete says it applies most of all to final containers.

The reason is, of course, that people often return milk bottles that are not sterile. They may have been washed. And they look clean. But very often they really aren't. Sometimes, if the washing hasn't been thorough, there'll be small streaks or spots that contain thousands, even hundreds of thousands, of bacteria.

So that's why it's absolutely necessary both to wash thoroughly and sterilize thoroughly if you're going to produce clean, high quality milk---the kind of milk that brings premium prices. Neither washing nor sterilization is sufficient alone. They must go together.

And remember---if you sterilize with hot water be sure that the temperature of the water is at least 180 degrees. If you use steam the temperature must be at least 200 degrees. And keep the utensils there for five minutes. For the chlorine treatment the formula is one part of free chlorine to 5,000 parts water. Keep the utensils in the bath for three minutes.

And then---remember this also. AFTER sterilization be sure to protect all vessels from contamination. Otherwise sterilizing is a waste of time.

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ANNOUNCEMENT: That was YOUR FARM REPORTER, winding up another week of interviews with Department of Agriculture specialists. If you want copies of the bulletins he mentioned, or if you want the steam-boiler blueprints, write him. He gets his mail at Station_____or at the Department of Agriculture in Washington. The bulletin numbers, again, are: Farmers' Bulletin No. 1473, "Washing and Sterilizing Farm Milk Utensils," and Farmers' Bulletin No. 1315, "Cleaning Milking Machines."

UNITED STATES
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YOUR FARM REPORTER AT WASHINGTON December 23, 1929.

NOT FOR PUBLICATION

Speaking Time: 9 Minutes All Regions.

ANNOUNCEMENT: Your Farm Reporter is here and we are going to listen to him at this time. He is going to talk about shipping fever in livestock. This is a disease that causes livestock loss practically all over the country wherever livestock is produced. All right, Mr. Reporter.

--ooOoo--

Folks, I want to talk to you today about a livestock disease that is causing a great deal of loss to stockmen throughout the country. This disease affects both beef and dairy cattle. Hemorrhagic septicemia is the name of this livestock disease, but it is commonly known as SHIPPING FEVER. It is possible that this disease has escaped your attention because of lack of information about the disease, and difficulty in making the proper diagnosis.

I thought you beef and dairy cattle people in all sections of the country would be interested in knowing what scientists in the United States Department of Agriculture have to say on this subject. So, I went over and had a talk with Dr. S. O. Fladness, in charge of livestock transportation supervision conducted by the Bureau of Animal Industry. Dr. Fladness has been in the Department for more than 20 years, and his experience with shipping fever outbreaks has given him a wealth of information on this disease.

What is shipping fever? This was my first question.

"It's a livestock disease," said the doctor, "and it's infectious. It is also communicable, or catching, whatever you wish to say. The disease is caused by a germ, or organism. This germ may be in an animal's system without causing harm so long as the animal receives good care and proper feeding and handling. However, when this animal suffers undue exposure, is roughly handled or managed in such a way as to lower its physical resistance --- right then shipping fever germs, already in the system, get busy, and a sick animal is the result."

How else may livestock get this disease?

"By catching it from other animals or by contact with infected pens, yards, bedding and so on - together with the hardships of travel," is Dr. Fladness's answer. "Here is an example. A dairyman in the North sells a carload of cattle to a southern dairyman. The northern cows are all well when loaded, but going down they pick up infection en route, undergo lowered vitality and develop shipping fever. On arrival at their new home in the

South, the diseased cattle plant the infection on the premises thereby exposing the well cattle on that farm. Or, a ranchman sells cattle to a Corn Belt feeder. The animals are well when loaded, but somewhere in transit they are thrown off on regular feed and water and their systems are upset. This lowers their physical vitality. If shipping-fever germs are in their systems the disease develops. When the cattle go into the Corn Belt feedlot, they promptly place the other cattle on that farm in danger of contracting shipping fever."

Dr. Fladness was giving me such practical information that I passed my plate for another helping and asked for still more.

"Take this example," he said, "A man lives 5 miles from the shipping point. He starts driving a carload of any kind of cattle to this point for shipment. He's in a hurry and rushes the cattle on the five-mile trip. They may become overheated or may arrive at the shipping point tired. If a cold rain is falling and the animals are unduly exposed,-- they may develop the fever in a few days, possibly before reaching their final distination.

At this point I asked Dr. Fladness if an animal might develop shipping fever while on the farm.

"Yes, indeed," was his quick reply. "However, this distinction should be made. Shipping fever is caused by a germ. Any condition that causes that germ to become active in the system of an animal may cause the animal to come down with shipping fever. The popular term "shipping fever" is used for the disease because so many animals are affected in shipping. The hardships of travel often combined with irregular feeding and watering result in lowered vitality. The germ in the system, in a dormant stage, takes advantage of this lowered physical resistance, and fever results. However, anything that lowers the physical vigor of the animal encourages the development of the fever germ if it's in the system, and also makes it harder for the animal to resist "catching" the disease in case of exposure to infected animals or premises."

How is a stockman to know or recognize this disease?

"That's the big problem," the doctor acknowledged. "Shipping fever is not easily distinguished from other ailments. It is apparent that something is wrong with the animal. It is off feed and all humped up over in one corner of the lot. Something is wrong but what is it? Has the animal got shipping fever or something else? Better call a competent veterinarian.

"Now Dr. Fladness," I said, "What is the average stockman going to do to prevent his animals from developing shipping fever in case they have the dormant germs in their systems, and what is he going to do to cure the disease if it breaks out?"

"Now, that's the point," was his joyful reply. "Good treatment goes a long way toward solving this shipping-fever problem in livestock. Keep your feeders and stockers in thrifty condition. Look carefully after the comfort and health of the dairy cow wherever she is kept, and remember good treatment is essential to health and vitality of livestock whether you have 5 milk cows

or 500 beef animals. Abuse, neglect, and irregularity in feeding and watering all tend to lower body vitality. In this weakened condition disease may develop in the animal's system. An ounce of prevention is certainly worth a pound of cure in the case of shipping fever. See that clean cars are provided for shipment of cattle, and see that these cars are comfortable under prevailing weather conditions. It is estimated that stockmen lose about a million dollars a year from shipping fever, and some years the loss runs to three or four million dollars. Good treatment of the animals at home on the farm and proper care and handling in shipping, will greatly reduce this loss. If the producer grows strong, vigorous animals, and delivers them in good comfortable condition to shipping points, the chances are they'll reach destination in first class shape, because the railroads, commission merchants, and public handlers of livestock all are cooperating to cut down this loss from shipping fever which is charged right back to the man producing the animals. It is possible to prevent the disease with practical certainty by means of proper vaccination with a bacterin or aggressin, at least 10 days before the animals are to be shipped.

"Now in case the disease develops in a herd, the owner should follow the advise of a competent veterinarian. The stage of the sickness will determine what method to follow, and what product to use, and only veterinarians or other qualified persons, well informed on the subject should treat animals affected with diseases such as shipping fever.

I asked Dr. Fladness if this radio talk on shipping fever should be broadcast in all sections of the country, and he said, "Yes. Of course the disease occurs most frequently in the cattle feeding centers because there are more cattle in those sections and also a greater movement of cattle but it is a disease that is likely to bob up most anytime and anywhere when susceptible animals are abused, or neglected and their physical resistance is thereby lowered. To those who would like to acquaint themselves with this disease, and for those desiring additional information, recommend Farmers' Bulletin No. 1018-F, "SHIPPING FEVER OF CATTLE," and Leaflet No. 38-L, "MAINTAINING THE HEALTH OF LIVESTOCK IN TRANSIT."

This wound up my interview on shipping fever. I certainly found out a number of valuable things about this disease, and I hope I have been able to give some of these bigger points to you livestock producers out there in the field, so that you may take better care of your animals and build up vigorous, disease-resistant livestock.

---ooOoo---

CLOSING ANNOUNCEMENT: Your Farm Reporter has just told you how to control shipping fever in livestock. He mentioned Farmers' Bulletin No. 1018-F, "SHIPPING FEVER OF CATTLE," and Leaflet No. 38-L, Maintaining the Health of the LIVESTOCK in Transit." These publications are free for the asking. Write this station for your copies. This program comes to you through the cooperation of the United States Department of Agriculture and Station______.

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UNITED STATES
DEPARTMENT
OF AGRICULTURE
Radio Service
OFFICE OF
INFORMATION

YOUR FARM REPORTER AT WASHINGTON Tuesday, December 24, 1929

Crops and Soils Interview No. 15: The Farm Wood Crop.

ANNOUNCEMENT: Your farm reporter at Washington has been to see a specialist about the farm woods crop. He is now feady to report to us what the foresters in the United States Forest Service say about the way to handle that highly important part of the farm---Well, Mr. Reporter--

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Now that the other crops are laid by, many of you, no doubt, are getting busy in the woods. Mr. W. R. Mattoon, expert on farm forestry of the United States Forest Service, says that while about this time of the year farmers get out their sharp axes and saws and start into the woods to do some chopping, they generally cut the wrong trees.

Maybe you don't do that. Then again maybe you do. Anyway, I asked Mr. Mattoon to point out to us which trees in our wood lots he would cut, if he were doing it.

"Well," he said, "I would cut with the idea of keeping the land producing timber of the best quality at the fastest rate. Don't cut everything that is saleable. Always leave five or more seed-producing trees to the acre and plenty of younger trees as a good basis for growing another crop."

"What would you cut for cordwood," I asked, just to pin him down to particulars.

"Cut out the poorer, less valuable trees for cordwood, and leave the better ones standing," he replied and then added, "but before you start cutting, take the sound sticks lying on the ground. That is, use the tops which have been left from logging operations. And the trees which have been blown over by the winds, or crushed down by the snow, or otherwise toppled over. If you leave such trees and tops on the ground, they will not only increase the danger from fire, but will eventually rot and be good for nothing.

"After you have cleared up the loose stuff and the timber already down," he went on, "start in on the dead trees which are sound and still standing. They are usually dry and make good firewood. They are of no account in the woods.

"Then there are the trees which are diseased or have been so badly damaged by insects that they will probably die. Also the trees which are specially subject to disease andinsect attack. For instance, if the chestnut bark disease is in the woods, any American chestnut trees will almost certainly be killed, so better salvage the timber while you can."

"After the diseased trees, and the dead trees, and the loose stuff is taken care of, what then? I asked.

"Just bear in mind to keep the woods working at its best for you," Mr. Mattoon answered. "Cut with an idea of making the future timber crops better crops. Make your cutting for cordwood and many other farm uses really a weeding out to increase the value of what is left.

"Cut out the crooked trees which are crowding out the straight ones. The crooked trees won't make valuable timber trees while the straight ones may.

"Then there are the big old trees which are unsuitable for lumber, and have big tops which shade out a lot of smaller trees growing under them.

"And the smaller trees which are overtopped and stunted by the bigger and better ones. Small, stunted trees are not likely to develop into very valuable timber trees.

"Some kinds of trees are more valuable than other kinds," I suggested.

"Oh, yes," Mr. Mattoon said, "In choosing the trees to weed out, you should always know your trees and tree values. For instance, a black oak or a beech which is crowding out a white oak or a hard maple of equal size and health should be cut out.

"And a yellow poplar growing on a dry ridge should be cut out in preference to a hickory or an oak or a pine near by. There is little to be gained from keeping a tree growing on ground unsuited for it.

"Then there is the question of rate of growth to be considered," he continued. "Cut out the slowly growing trees which are crowding out equally valuable kinds which grow faster. For example, cut out a white oak, or hickory, or sugar maple in preference to a yellow poplar, or black walnut, or ash."

Another kind of tree he mentioned as a candidate for weeding out is the tree which has been badly fire-scarred at the butt. Of course, such trees are less valuable for lumber than sound trees. They usually rot. They are among the first to go over in a heavy wind.

Mr. Mattoon also explained that the ideal trees for cordwood are those which range from four to about ten inches in diameter. You get very little cordwood from trees smaller than four inches across. Trees bigger than ten inches in diameter are usually worth more for something other than firewood unless there is something the matter with them.

Fire wood should be seasoned. It will make more heat in the fireplace and less under the collar, if it is properly seasoned. To season your firewood fast, pile it up or rick it up in long narrow piles where the sun and wind can get to it, but where the rain can't. A wood shed is a good investment.

But in all this matter of cutting firewood, Mr. Mattoon pointed out, it is well to be far sighted, in your use of the warm woods. To "keep the home fires burning" you should be careful where you swing that ax. Farm woodlands have many times been the means of lifting a mortgage and on the farm balance sheet making the difference between loss and profit. A stand of timber trees

is an accumulation of money values on which the owner can ehcek when he needs money.

Before selling off your timber, talk it over with your neighbors who have sold timber and get the benefit of their experience. Ask your county agent or your State forestry department for information. Investigate local timber markets and prices.

And always remember that standing timber can wait over a period of low prices without going bad fast. You can take advantage of that by selling when prices are right. Sell under a written agreement, especially if the buyer does the cutting.

But better harvest your own timber crop. Then with your timber you will sell your labor and that of your teams or trucks, just as you do in selling your other crops.

Even when you have no surplus timber to sell, a well managed farm woods pays. The firewood, fence posts and material for repair and farm buildings you can get are well worth what it takes to keep the home woods growing at its maximum.

Mr. Mattoon has written a couple of interesting and valuable publications on this subject of farm woods. You can get them free of charge. Ask for Farmers Bulletin No.1117-F on "Forestry and Farm Income" and Leaflet No. 29-L on "The Farm Woods."

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ANNOUNCEMENT: You can get those publications either from this Station------ or by writing direct to the United States Department of Agriculture, at Washington, D. C. The one on "The Farm Woods" is Leaflet No. 29-L. And the one on "Forestry and Farm Income" is Farmers' Bulletin No. 1117-F.

UNITED STATES
DEPARTMENT
OF AGRICULTURE

Radio Service

OFFICE OF
INFORMATION

YOUR FARM REPORTER AT WASHINGTON — Wednesday, December 25,1929

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

Poultry Interview No. 15: A FULL STOCKING FOR THE POULTRY RAISER

ANNOUNCEMENT: The burning poultry question before the American public today is getting a favorite piece of chicken or turkey at Christmas dinner. But Christmas time brings up other important questions, too, for poultry raisers. For one thing, it marks the closing of 1929. Let's look back, with YOUR FARM REPORTER today, over the old year and see what 1929 has put in our Christmas stockings.

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I hope all of you folks do get your favorite pieces of chicken today. Though as far as I'm concerned all chicken is good chicken as long as it's cooked to taste. The only part of the chicken, or turkey, that I prefer is another piece.

By this time Santa Claus is about through with his day's work. The mail man may yet be around with a last minute surprise. But the suspense is over. These tantalizing do-not-open-until-Christmas packages have become just paste-board and excelsior. That mysterious box stowed away on the top shelf of the clothes closet has given up its secrets.

In this atmosphere there's not much place for shop talk. And I certainly don't feel inclined to talk shop today. Christmas is too much in the air. But in all the holiday flurry there's one Christmas present that we may not have thought about. It's the present that our poultry flock has been building for us throughout the year. And it's natural to wonder, too, whether our flocks filled our stockings fuller this year than they did in 1928.

Just wondering, though, isn't very satisfactory. It's too much like hiding a Christmas present and then forgetting where you've hidden it. There's a great satisfaction at the end of the year in knowing exactly how much your poultry flock has helped to make your Christmas merrier-- especially if it has helped a lot.

Mr. A. R. Lee, our Department of Agriculture poultry friend, and I were talking about this the other day. Mr. Lee pointed out that it was a matter of keeping records.

You see that little shop-talk at this point, seems to be unavoidable. So let's have it and get it over with.

Mr. Lee gave me several good reasons why careful records help out in the poultry business-- not only at Christmas but at all times. They eliminate a lot of guess work. You can get at the actual reasons for your profits and losses. They help to show what methods of production and marketing are most profitable under your conditions. They show the exact amount of money realized. And so forth and so forth.

Egg production, of course, is the feature of poultry raising that's easiest to record. And it is the thing that very largely determines the profits in many flocks. Surveys of poultry farms show that the annual egg production per hen runs along most directly with the returns received by poultry raisers. And it also directly affects the labor income, which constitutes the wages the poultry-keeper gets for his work.

One survey showed that labor returns per bird increased 35 cents for each increase of a dozen eggs in average production per hen.

As you know, feed represents at least 60 per cent of the total cost of producing eggs. But high egg-producing flocks eat very little more than the lower-producing ones.

Now let's have a brief look back over 1929. One of the indicators of progress, so far as egg-production is concerned, is the egg-laying contest. There are about 30 main ones going on now in the United States. The 1929 summary of these contests shows some high averages. One hen, up at the Connecticut Agricultural college, laid 336 eggs in 365 days. And 10 hens, in one pen, averaged 293.5 eggs.

Incidentally, all of the highest records this year were made by White Leghorns. That isn't always the case, however. Rhode Island Reds and Barred Plymouth Rocks, both, have led contests in recent years.

The average of all birds entered in these contests-- 20,000 hens in all-- was 190 eggs. This shows the great progress made in breeding for egg production. Of course these hens represent the pick of the flocks in the whole country. We can't expect to get such averages in our home flocks. However, we can raise one average-- and every increase in production means more dollars in the poultryman's Christmas stocking.

What average should be expected on the ordinary poultry farm? Well, a recent state survey of a large number of farm poultry flocks gives some interesting figures on that. The yearly average production was 150 eggs. And Mr. Lee believes that all farm flocks should average at least that much. Of course, many flocks don't. But practical experience shows that raising production at least to that level is not an impractical dream.

Mortality is one of the main factors affecting returns from poultry. It usually varies from 5 to 20 per cent on most farms. And right in that variation there is an important story of profits and losses. Careful selection of breeding stock and good management should keep the mortality figure down below 10 per cent.

As you know, culling is very closely related to the death rate in the flock, and also to the total returns. All commercial farms cull their flocks heavily----often as much as 20 per cent in the first few months and 60 per cent for the entire year.

Mr. Lee sounded a note of warning here, though. He pointed out that it is possible to cull too heavily, so that the poultry plant is running at 1/2 to 1/3 capacity. But this is hardly true of farm flocks, where culling is almost entirely confined to two summer months. On farms culling is usually too light rather than too heavy.

Mr. Lee also pointed out that number of eggs is not the only factor to be considered. Size of eggs is almost equally important. In most of the egg-laying contests, for instance, eggs have to be up to a certain standard. Otherwise the hens don't receive full credit for laying them.

But now, to get back to our brief glance at 1929, the figures gathered in surveys, and otherwise, do indicate that the poultry business has made encouraging progress during the year. Average production is slowly going up. More and more poultry raisers are using records to make their poultry enterprise a real business-like business. Culling is used more and more effectively, and so forth.

But, even more important the figures show that there are opportunities for much greater progress along these same lines. Next Christmas let's look forward to an even fuller stocking for the farm poultry business than we have today.

<u>ANNOUNCEMENT:</u> That was YOUR FARM REPORTER, wishing us all a merry Christmas and a full stocking. Next time his poultry chat falls on New Year's Day, And he's getting a special New Year's program ready for us. Make it a New Year's resolution to tune in.........at this same time next Wednesday.

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UNITED STATES
DEPARTMENT
OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Thursday, December 26,1929

NOT FOR PUBLICATION

Cooperation Interview No. 15: The Year in Cooperative Marketing.

ANNOUNCEMENT: At this time of the year, most folks are in the habit of looking back over the road to see how far we have come. We asked your farm reporter at Washington to see specialists of the cooperative marketing division of the Federal Farm Board and find out, if he could, just how we now stand in this cooperative marketing business -- Well, Mr. Reporter, what did he say?

How many farmers are now in co-ops? -- How much of the different farm crops do co-ops handle? -- Are there more co-ops now? --- And are they doing more business than they did?

Those are some of the questions I asked Mr. R. H. Elsworth, statistician of the division of cooperative marketing of the Federal Farm Board. He keeps tab on the farmers' associations throughout the country. What figures he doesn't have at his tongue's end, he has at his fingers' end.

Right off, he told me that our co-ops now have about three million members. Many are members of more than one kind of association. About two million farmers belong to one or more co-ops. That is, almost one third of all the farmers in this country now belong to cooperative associations.

But our co-ops don't market one-third of the farm products sold. They only market about one-fifth. Of course, these things vary with different kinds of crops and in different sections of the country. Mr. Elsworth pointed out that the marketing year is not the same as the calendar year. The co-op marketing season may last only a few weeks or maybe a year of 18 to 20 months.

In livestock, we have over two thousand livestock shipping associations, with a total of nearly half a million members. Those shipping associations market better than $320,000,000 worth of livestock a year.

Then there are twenty-eight farmer-owned sales agencies operating at terminal livestock markets. They sell $300,000,000 worth of livestock a year, and handle about 17 per cent of all the livestock sold at the markets where they are located. A large part of this business of course, comes from the shipping associations already mentioned.

Or take grain, about 900,000 farmers are served by local farmers elevator associations, 85 per cent of which are in the North Central States. These elevators either independently or through their sales agencies in terminal markets sell close to $700,000,000 of grain per year.

As I was saying, however, Mr. Elsworth told me that the six wheat pools active in the 1928-29 season handled nearly 15,000,000 bushels; but that is little better than two per cent of the total wheat entering our channels of trade.

Recently there has been formed a national association called the Farmers National Grain Corporation which is designed to act as a central sales agency for cooperatives in the several grain producing areas. This association makes available to cooperatives an agency which may market their grain in an orderly manner and take advantage of the farm relief provisions of the Agricultural Marketing Act.

Cotton is another important product of which the amount handled cooperatively is comparatively small. The fifteen big co-op associations marketed last year about 1,164,000 bales. That was about eight per cent of the total cotton ginnings, But there was a lot of difference in different sections. In the Salt River Valley, 43 per cent of all the cotton ginned was handled cooperatively. In Oklahoma, 30 per cent was sold through co-ops. In Mississippi, 20 per cent of the cotton was marketed by co-ops. But in other states, the percentage was much smaller.

About 16,000,000 pounds of wool are sold by co-ops every year during the last four or five years. That is about twice as much as was sold by co-ops back in 1920. There are now about 100 associations, and the amount marketed per member has risen from 323 pounds in 1920 to about 700 pounds last season. But there again, the proportion of the total crop is rather small. Wool marketed cooperatively in this country last year was a little over 5 per cent, of the total.

With some of our other farm products, however, our co-ops handle a much bigger share. For instance, 33 per cent of all the creamery butter made in the United States is made by co-op creameries and 28 per cent of all the cheese is produced in co-op cheese factories. During the past two seasons, the quantity of creamery butter made by co-ops has increased and the quantity of cheese has decreased.

The quantity of fluid milk marketed by milk associations varies from a few million pounds for the smaller associations to over two billion three hundred million pounds for the largest co-op.

Then, too, poultry and egg co-ops have grown quite a bit in the last few years. In 1930, there were only 736,000 cases of eggs marketed cooperatively, whereas about 5,000,000 cases were sold by the co-ops in 1929.

And the co-op shipment of live poultry now amounts to 15,000,000 pounds and the shipments of dressed poultry to 10,000,000 pounds a year.

Taken altogether our fruit and vegetable co-ops every year sell $300,000,000 worth of produce. In the case of the California citrus fruits the growers' organizations market 85 per cent of the total California citrus crops and the Florida co-ops market 33 per cent of the Florida total.

The apple co-ops of the country market about the same number of boxes they did in 1920, but the grape associations market 50 per cent more now than they did then.

The nut associations handle a good part of the nuts grown in this country. A single co-op handles about 68 per cent of the almonds produced in the United States. A group of co-ops markets about 84 per cent of the walnuts.

However, for most other crops, including tobacco, the picture of cooperation is not so impressive. There were only two growers' tobacco marketing associations running in 1929. They had about 11,000 members and handled about 20,000,000 pounds of tobacco.

From those figures Mr. Elsworth gave me, I gathered that, taken by and large, co-ops do considerable business.

Cooperative marketing had a boom in 1922-23-24, Mr. Elsworth declared. The increase in co-ops and co-op membership reached its height in 1925.

Then came a certain amount of slacking up. Now, however, largely as a result of organization of the Federal Farm Board, cooperative marketing has started a new upward movement. In 1930, Mr. Elsworth estimated, cooperation will reach a higher point than ever before.

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ANNOUNCEMENT: Your farm reporter at Washington has just pointed out the general condition of farmers' cooperative marketing as outlined to him by Mr. R. H. Elsworth, of the cooperative marketing division of the Federal Farm Board. These reports are presented by Station________ in cooperation with the Farm Board and the United States Department of Agriculture.

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UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Friday, December 27, 1929.

Not For Publication

Speaking Time: 10 Minutes.

Dairy Interview No. 15: BIGGER PROFITS THROUGH TESTING

ANNOUNCEMENT: Your Farm Reporter has been talking with Dr. J. C. McDowell, veteran authority on dairy herd management in the Department of Agriculture. Now he's going to tell us some true stories -- stories Dr. McDowell takes direct from the records of dairymen and of cow-testing associations.

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Once upon a time there was a farmer out in Ohio who had a dairy herd of 23 cows. It was a fairly profitable herd, too. But the farmer decided that it wasn't profitable enough. He joined a dairy herd improvement association and began to check up on his cows.

The first year of checking up he weeded out 8 cows and sold them. The second year he sold four more, leaving him 11 cows out of the original 23.

Was the farmer wise? Well, the second year, with 8 less cows, he had more income over cost of feed than he did the first year. The third year he made almost as much as he did the first year, and he did it with less than half as many cows.

Now, this is NOT a fairy story, even though it did start "Once upon a time." Dr. McDowell took the figures from the record of a herd in an Ohio dairy herd improvement association. Let's examine them.

The story starts in 1926 with the 23-cow herd. That year the herd averaged 249 pounds of butterfat per cow. In 1927 the 15 cows averaged 350 pounds, a gain of 101 pounds. And in 1928 the 11 cows averaged 373 pounds. As to total income over feed cost: With 23 cows it was $1,238 -- with 15 cows, $1560-- with 11 cows, $1199. It was only slightly less with 11 cows than with 23, and there were 12 less cows to milk and care for.

At the same time the cost of feed increased, indicating that the farmer was feeding better. And the price per pound he got for his butterfat also increased, indicating that he was paying more attention to marketing.

Dr. McDowell took occasion to point out here that testing alone is not sufficient to increase production, or profits. Records must be carefully studied to find out just what's going on. And not only that, but we find it essential to study our markets and our methods of marketing.

Now, let's take the case of an entire association. Here's a story from Michigan. This association started out in 1926 with 183 cows. Members culled their herds so that in 1927 the number was reduced to 165. And the following year it was cut to 95.

At the same time butterfat production per cow increased steadily from 339 pounds---a good record to begin with--to 341 pounds and then to 347 pounds. And income over cost of feed per cow rose from $80 to $94 to $115. As the number of cows decreased both the average production and the average income over feed cost increased.

Dr. McDowell showed me the record of another association that gives us a little different angle. As butterfat production per cow increased the price per pound for butterfat increased also. In three years average production went from 297 pounds to 307 and then to 332. The price of butterfat moved correspondingly upward, - 59 cents in 1926, 61 cents in 1927, and 63 cents in 1928. Dr. McDowell suggested that as the association members learned better business methods from testing and record-keeping they also gave more attention to marketing. That usually happens. And it usually pays.

But we've been looking entirely on the bright side of the picture. There <u>is</u> another side, although it's almost negligible in comparison. There are cases in which testing and culling have not increased income.

Here's one case in that same association. This farmer started out in 1926 with 49 cows, The collowing year he reduced the herd to 34 but brought it back up to 45 in 1928. However, income consistently decreased. With 49 cows it averaged $120, with 34 cows $107, and with 45 cows only $68.

What's the reason? Offhand, there doesn't seem to be any reasonable explanation. But Dr. McDowell happens to know the circumstances. The herd was built up to a very high standard by one man. Then this man died and the herd was taken over by a company. Apparently this man had provided an inspiration, an interest and an unusual ability that the company could not equal after his death. He had built a high-producing herd -- to a point that requires the utmost in good management.

I noted one other case from Iowa. Here, however, the number of cows in the association was increased rather than decreased. And both butterfat production per cow and income over cost of feed decreased correspondingly.

There are, of course, a number of reasons why associations might not get the desired results. They may take in new herds which are not up to standard. Or they may lose good herds. But Dr. McDowell points out that even these reasons aren't very good ones. In the last analysis there isn't a good reason, under normal conditions, why testing and culling and practice of business methods will not boost both average production and net income. Dr. McDowell points out that, when an association loses its best herds, that's usually evidence in itself of poor management on the part of the association.

Now, here is the best story of all. It's taken from the records of all dairy herd improvement associations in the United States that were sent in for tabulation, for the five years 1924 to 1928 inclusive. The number of cows on test has, of course, increased greatly during that period. In 1924 records for 32,091 cows were reported to the Department of Agriculture. By 1928 the number had increased to 201,590.

During that five-year period average milk production has steadily gone up. Average butterfat production has gone up. Income over cost of feed has gone up. And incidentally cost of feed has gone up too.

Here are the figures. Butterfat production per cow increased as follows through the five years: 279 pounds, 284 pounds, 289 pounds, 293 pounds, 295 pounds, the latter figure being for 1928. Income over feed cost increased from $94 in 1924 to $116 in 1928. And feed cost went from $68 to $77.

Testing, culling and general good business management worked the wonder. And they will continue to work similar wonders----which really aren't wonders at all. They're just the results of ordinary good business.

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ANNOUNCEMENT: That was Your Farm Reporter's last talk to dairymen this year. Next week he's going to start the new year by interviewing a Department of Agriculture dairy specialist on the subject of "Proved Bulls and their Daughters." He'll be here next Friday at this time to tell you about it.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON Monday, December 30, 1929.

NOT FOR PUBLICATION

Speaking Time: 10 minutes All Regions.

UNCLE SAM AND HIS MOTION PICTURES

OPENING ANNOUNCEMENT: At this time Station_____ presents your Farm Reporter who will use the next 8 minutes in talking about the motion pictures made and distributed by the United States Department of Agriculture. It isn't often that the radio takes you to the movies, but we are going to make an exception this time. All right, Mr. Reporter, ring up the curtain.

---oOo---

Get ready folks, I'm going to take you with me to the movies. No, we're not going to Hollywood---------This time it's Washington, D. C.

The Extension Service of the United States Department of Agriculture has a regular motion picture department, housed in its own building. Office of Motion Pictures, is the name given to this branch of the service, and its duty is to make and distribute motion pictures. You are going to see how they are made and distributed.

All right, here we are at the motion picture building. That big white building to your right is the Bureau of Engraving where they make all the money we spend. The body of water down in front is the Potomac River basin, and channel, where the Mayflower, the President's private yacht was stationed before President Hoover ordered her sold. Now let's go inside.

This is Raymond Evans, Chief of the Office of Motion Pictures. Listen to what he has to say about Uncle Sam's reel news. Here he goes.

"Motion pictures have been made and used by the Department of Agriculture for more than 15 years. In 1923 the Office of Motion Pictures was established as a branch of the Extension service. It now requires 24 people to carry on this work, we use all this new, two-story building constructed especially for us, and we make all kinds of motion pictures for farm folks -- men, women and children. Now, I'll take you through, and back behind the scenes.

"Here are our cameras, that we use here and in the field. If we make a cotton picture we take the camera to the South where cotton is produced. For hog-cholera pictures we go to the section with the heaviest infestation. We shoot most of our pictures in the sections where they will be most used, and then finish up here in the studio.

"This is the studio. See that make-believe open well over there? That was made for a picture designed to impress on people the fact that drinking water is sometimes a serious problem in rural sections."

At this point I interrupted Mr. Evans to ask what the man was doing over in the little room with the brilliant light.

"Oh, yes," he replied, "That man is photographing a growing plant. Let's take a look at it, that's quite an interesting experiment. You see these sprouts on these grains of wheat? Now, do you see that electrically operated camera there in the corner. Well, that camera is automatic, and every half hour it takes a picture of that growing grain of wheat. After this has been going on for several days we have a motion picture scene that portrays a grain of wheat actually swelling, sprouting, and growing right before your eyes."

Passing into a large room Mr. Evans said "These large drums are used for drying the films. The next room is where the titles are put in and where the film is cut and arranged for showing. These six big fireproof vaults store more than 2,500 copies of motion pictures we have made and now have ready for free circulation."

I asked Mr. Evans if they ever showed any of these pictures here.

"Yes, indeed," was his reply. "We are on our way now to the projection room where one of our brand new pictures is being given its final showing, before release."

We soon entered the projection room where elevated seats are all fixed up just like a little theatre. "On a Thousand Hills" a range pasture picture, was the title of the picture being shown. Down in front was a Forest Service man from the Range Sections of the West. He was checking up on the picture to see how well it was adapted for livestock raisers in that section, and every now and then he would ask the operator to hold the scene on the screen for several minutes while he discussed with other pasture people the advisability of making certain changes. Some of you radio listeners at this time will see the new picture I am describing in a short while.

"Mr. Evans," I inquired, "tell us how many motion pictures the Department has ready for distribution."

"There are about 2,500 copies of 250 different subjects in the vaults now," was his reply. Many of these are one reelers, but the newer pictures as a rule run from 2 to 4 reels."

At this point I asked Mr. Evans to tell us the most popular pictures they had ever produced.

"Out of the Shadows," comes his quick reply. "That is the title of an old two-reel picture on livestock tuberculosis. It is the story of a prominent dairyman who refused to cooperate in an anti-T.B. campaign and said there was nothing to the disease. Later his own little girl came down

with tuberculosis. Where did she get it? Nobody knew, but the man had his cows tested for T.B. and found several reactors. He was convinced. Out went the T.B. cows and the picture ends by bringing the little girl back from the sanitarium sound and well. This picture is out of date now, but it has done a lot of good in its day."

"'Poor Mrs. Jones,' is perhaps our second most popular picture. It contrasts living conditions in the country and in the city. This picture is in 4 reels. It is designed to teach a lesson in appreciation of the advantages of country life."

I asked the chief about the new club picture "Under the 4-H Flag." "Oh," he replied, "That is a new picture, based on the novel of the same name by John F. Case. This picture is in 4 reels, and bids fair to be very popular.

What about the little narrow 16 millimeter films?" was my next query to the motion picture chief.

"They are all right in their place," was his prompt reply. "They are hardly a substitute for the standard 35-millimeter films in common use today, but they carry motion pictures into a new field. These little films can be used to show a picture to a family, to a few men in an office, or elsewhere where a small crowd is assembled. A sixteen millimeter film is limited to a three by four foot screen, while the standard films may be thrown on a nine by twelve screen. While we have no sixteen millimeter film in circulation as yet, it probably won't be long before some of our subjects will be available on narrow-width stock.

"What about the talkies Mr. Evans?" Of course I had to bring that up.

"We are trying them out," came his prompt reply. "It takes money and time to work out talking pictures, but if they prove good for our work, you can rest assured that Uncle Sam will put them in use."

How are these motion pictures of Uncle Sam's distributed? You want to know that, of course.

By the Extension service. "Our big problem," says Mr. Evans, "is to get the right picture to the proper place. We want these pictures used but not abused.

If a person in any section of this country is interested in seeing one or more of these pictures, he should write this station for Miscellaneous Circular No. 86-M, "MOTION PICTURES OF THE U. S. DEPARTMENT OF AGRICULTURE." This booklet lists and describes all the pictures.

After looking over the lists and deciding on what pictures you would like to see, tell your county agent, and he will do the rest. Of course a direct request to the Office of Motion Pictures, U. S. Department of Agriculture, Washington, D. C. will be honored.

The U.S.D.A. "movie" office has pictures on many subjects pertaining to rural life. They are suitable for practical instruction, club meetings, even church use.

Many foreign governments have bought these agricultural pictures from Uncle Sam for use in their own country.

This motion picture service is one of many branches of service Uncle Sam offers the people of his country. It's up to you to request and use these pictures, if you want to. As they say at a checker game, "It's your move."

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CLOSING ANNOUNCEMENT: You have just heard your Farm Reporter talk about Uncle Sam's motion pictures. For further information on this subject write this station for Miscellaneous Circular No. 86-F, "MOTION PICTURES OF THE U. S. DEPARTMENT OF AGRICULTURE.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

YOUR FARM REPORTER AT WASHINGTON. Tuesday, December 31, 1929.

NOT FOR PUBLICATION

Crops and Soils Interview No. 16: The Farm Budget.

Speaking Time: 9 minutes

ANNOUNCEMENT: Your farm reporter at Washington will now make his last report of the year. But he will keep on in the New Year seeing the scientists of the United States Department of Agriculture and bringing us a word from them. Right now, however, he has a message which may fit right in with your New Year resolutions ----- All right, Mr. Reporter, what's the good word? ----------

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You'all know the old saying: "Foresight is better than hindsight."---

----- But, come to think of it, you need hindsight to use foresight. As Mr. M. R. Cooper, of the division of Farm Management of the United States Department of Agriculture, reminds me, hindsight and foresight are part and parcel of the same thing.

In making your farm plans for the new year, it is a good idea first to look back over this past year. Did you do as well as you expected? Would you have made more money if you had had more of this crop or less of that? If you had done things differently or perhaps looked further ahead? Most of us can see where we have made mistakes without half looking.

But Mr. Cooper suggests that instead of just letting a few notions drift through our minds as to how we came out on farming this past year, we get out our books and study this thing through. And to those of us who haven't been keeping a regular set of books on our farm businesses, he suggests it would be a good idea for us to do the best we can by getting out our check books and our bills and jogging our memories a bit and estimating just what we did this last season, what it cost us to farm and what we got out of it. He showed me a bulletin with a method of analyzing the farm business. That bulletin has blank forms already marked to show the main heads under which you can enter the figures from your farm. For instance, it has forms for the number of different kinds of livestock you had at the beginning and the end of the year, and the value of them. The number you sold and what you got for them.

That bulletin is Farmers' Bulletin No. 1139-F on "A Method of Analyzing the Farm Business." It will show you just how to study through

your business.

Well, sir, when you get all that information down in black and white, Mr. Cooper claims, you will know a lot more about what you really did on your farm this past year. And in a lot of cases, you may be able to see just why and where you went wrong.

Maybe on some things you made more than you expected. Good! It is just as important or more so to know just why you did better than why you fell short of your hopes at the beginning of the year.

Of course, the whole idea in knowing just what you did this past year is to be in a better position to make your plans for this coming year. Every farmer plans. Even the Hit-or-Miss farmer makes plans; even if he keeps them mostly in the back of his head. It goes without saying that we will all plan our farming----- but how? There is no time like the next few weeks to plan the year's farm business. And you might as well make a thorough job of it. Mr. Cooper says it will pay you to put your plans on paper in the form of a regular farm budget.

By a farm budget he means a carefully worked-out plan as to just what part of your farm you will put in the different crops, with estimates of how much you expect to have to sell and how much you count on using at home. How much livestock you count on keeping. In the budget, you not only put down just how much you expect to have, but just what you estimate you will get for it.

Of course, you may not be able to say before hand just exactly what prices may be on some crop you may not sell until next fall or next winter. But if you get all the available information on the subject, you can most likely come pretty close to figuring what the prices will probably be----- certainly much nearer than if you go by guess-work or if you just take it for granted that the prices next season will be about the same they were last season.

It just doesn't work that way. Prices next year are likely in most cases, to be something different from what they were last year. Your first best bet on price information is the Agricultural Outlook Report for 1930 which the United States Department of Agriculture will issue on January 27. That will give you the prospects in a broad general way, on each of the crops you expect to plant, as well as on livestock and other farm commodities. Your State Agricultural College probably will issue a statement of the outlook for your state early in February.

The Department also issues a review of the "Agricultural Situation once a month and also a monthly report called "Crops and Markets." Those publications will give you a lot of information on the trend of prices which may come in handy in estimating what prices your stuff will sell for.

And it is not only prices that you have to think about but the amount of stuff you will have. What the yield will be. You should make a careful estimate of the yields you may reasonably expect from the use

of different quantities of seed, fertilizer, and spray or other material. Then put down how many acres you will use for the different crops and the yields you expect to get, not just what you hope for. With a good idea of what your costs will be, and the prices you may expect to get, and the yields, you can work out what income you'll probably get.

Mr. Cooper says it is always a good idea to make out several complete plans or budgets for different combinations of crops and livestock. Get all the information you can on which to base your estimates of the yields and prices you will probably get, as well as the prices you will probably have to pay for the things you will need in making the crops.

Then when you have down in black and white several complete budgets or plans. Study them out. Pick the one you think, everything considered, will give you the best returns. --------

I know that is a man's size job. I said as much to Mr. Cooper when he was outlining to me all the things which we should consider in working out our plans. He agreed with me. But went on to say that farming is a business. It doesn't pay a farmer to merely use his head to grow a crop of hair. If he uses his head to grow other crops which will pay much better, he must first know what he did last year and then look ahead and plan so he will do his best this coming year.

This matter of figuring things out is not so hard if you know how to go about it. Farmers Bulletin No. 1564-F. on "Farm Budgeting" will help serve as a guide to those of us who haven't been used to putting plans down on paper. It shows not only how to make a budget but how to use it for your own profit. It also gives some of the other sources of information you can draw on for light as to what the new Year will bring forth.

Don't lose any time. Start the New Year by beginning to assemble the facts and figures you will need in analyzing your farm business and laying out your farming plans.

The best start for a happier and more prosperous New Year, Mr. Cooper suggests, is to begin to budget your business.

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ANNOUNCEMENT: You can get those New Year Bulletins either through this Station__________ or by writing direct to the United States Department of Agriculture at Washington, D.C. Ask for Farmers' Bulletin No. 1139-F on "A Method of Analyzing the Farm Business, and Farmers' Bulletin No. 1564-F.------- Better put down those numbers before you forget them. Farmers Bulletin No. 1139-F and Farmers' Bulletin No. 1564-F. They are free for the asking.

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